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

September 29, 2009

In Reply Refer To: WTR-7

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

Re: April 27 and April 30, 2009 Clean Water Act Inspection

Dear Mr. Weihe:

Enclosed is the September 11, 2009 report for our April 27 and 30, 2009 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 **October 30, 2009**. The main findings are summarized below:

1 The NPDES permit upon reissuance should specify all process wastewaters and storm water drainages authorized to discharge through the catch basin sumps to the harbor. All pertinent BMPs also should be incorporated as permit requirements.

2 The dry dock was found in much better condition, with the gaps better sealed, the deck swept, clean, and in order, and no deposits of blasting grit, paint debris, or overspray on the dry dock deck or alongside on the piers. Continuous capture and removal of the solids from a curtain-shrouded and gap-sealed deck should prevent loss of solids to the harbor. The dry dock design makes it infeasible to direct dock drainage through a controlled sample point. As a result, Item 4.a of the September 19, 2008 EPA Administrative Order is expected to be modified to rescind corrective actions #2, #3, and #7, and amend corrective action #8 to require pier side disposal of hose cleaning and hydrotesting tail waters.

3 The pier side shipyard areas were found swept, clean, and in order, with no significant sources of contamination exposed to rain water contact. The excellent condition of the shipyard on the second day of this inspection, if maintained every day, should prevent the discharge of pollutants from the catch basins sumps to the harbor. Item 6.a of the EPA Order is expected to be modified to amend corrective action #15 to require pier side curbing around the dry dock only <u>if</u> the shipyard is not kept clean.

4 Because the NPDES permit had expired, the EPA Order established the self-monitoring requirements to be in effect through September 2009. So far, the sampling has not been fully conducted. Items 8 and 9 of the EPA Order is expected to be modified to extend the self-monitoring requirements in the Order until reissuance of the NPDES permit.

5 Item 8.c of the EPA Order is expected to be modified to eliminate the self-monitoring for tributyltin and replace self-monitoring for hexavalent chromium with total chromium.

We appreciate your helpfulness and that of your staff during this inspection. We remain available to ASPA and the Territory of American Samoa to assist in any way. Please do not hesitate to contact me at (415) 972-3504, or by e-mail at arthur.greg@epa.gov.

Sincerely,

Original signed by:

Greg V. Arthur
CWA 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:	April 27 and 30, 2009

Inspection Participants:

US EPA:	Greg V. Arthur, CWA Compliance Office, (415) 972-3504 Carl Goldstein, Envr Protection Specialist, (415) 972-3767
ASEPA:	LCDR Matt Vojic, USPHS, (684) 633-2304
MYD Samoa:	Bob Weihe, Owner, (684) 644-4123 Peter Blackman, Ben Solaita, General Manager, (684) 644-4123 Wayne Smith, Environmental Manager, (684) 644-4123
Report Prepared By:	Greg V. Arthur, Environmental Engineer, USEPA Region 9 September 11, 2009

1.0 Scope and Purpose

On April 27 and 30, 2009, 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 waste-waters and storm water runoff into waters of the United States. A secondary purpose was to verify implementation of the September 19, 2008 Administrative Order and to further verify the conditions in future NPDES permits. 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 the past year. Inspection participants are listed on the title page of this report. Arthur conducted the inspection on April 27 and 30.

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 4 and 5 for further description of on-site processes.

EPA issued NPDES permit No. AS0020036 to Southwest Marine of Samoa for the Satala Shipyard on January 7, 2003 set to expire on February 8, 2008. The Federal regulations in 40 CFR 122.21(d) allow the administrative extension of an NPDES permit if a permit application is submitted for renewal at least 180 days before it expires. The permit application deadline was August 12, 2007. 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.

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 over-spray, 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. The Order specified corrective actions but did not specify how to enact them. Modifications of the Administrative Order are expected to be issued concurrently with this report.

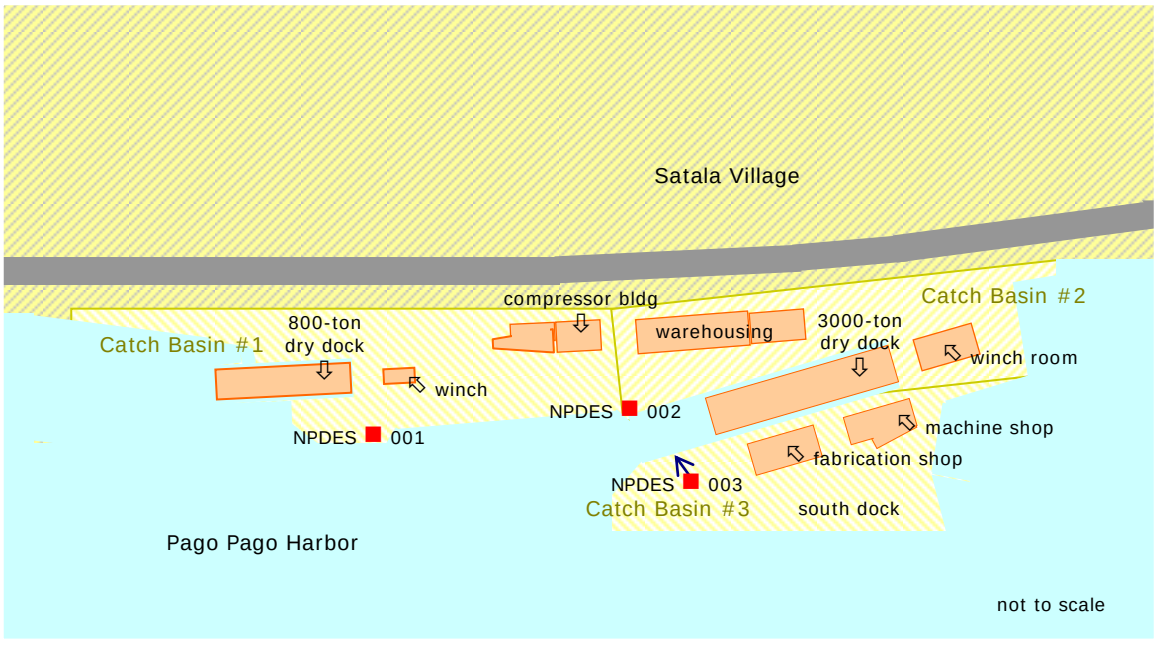
See Section 2.0 on page 11 for further description of requirements of the NPDES permit, the September 19, 2008 Administrative Order, and Modifications to the Administrative Order.

1.2 Facility SIC Code

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

1.3 Facility Description

Figure 1.3
MYD Samoa Shipyard – Layout



3000-Ton Cradle Dry Dock - The larger of two cradle dry docks was found on this inspection to be functioning and in order. The cradle dry dock consists of a bifurcated 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 fixed on hauling blocks to the cradle which is then winched up the railway out and over of the water. An electric winch engine and gearing is housed at the head of the dry dock. The gearing travels through a basin pit filled with lubricating oil. The ship repair work in the dry docks involves hydroblasting, depainting, painting, fitting, repair work, and fabrication. Vessels under repair have hulls made of fiberglass, aluminum, or steel. Sand-blast depainting uses copper-slag grit.

The deck consists of removable plywood and planking without perimeter curbing. Roofing felt now 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 and over the dry dock to capture painting overspray and windborne blasting debris. On the date of this inspection, MYD Samoa indicated that new curtains with grommet kits have been procured but not yet delivered to the shipyard. See Photos #1 and #2 in Section 1.6 of this report on page 9.

800-Ton Cradle Dry Dock - The smaller of the two dry docks was found on this inspection to be decommissioned and awaiting repair. MYD Samoa plans to 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.

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.

Fabrication Shop - Sheet metal fabrication and welding work is performed in an open but roofed 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 observed that scrap and materials, such as spare zinc anodes, were no longer stored 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 Photos #5 and #6 in Section 1.6 of this report on page 9.

Machine Shop - Machining operations are conducted in a second roofed 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.

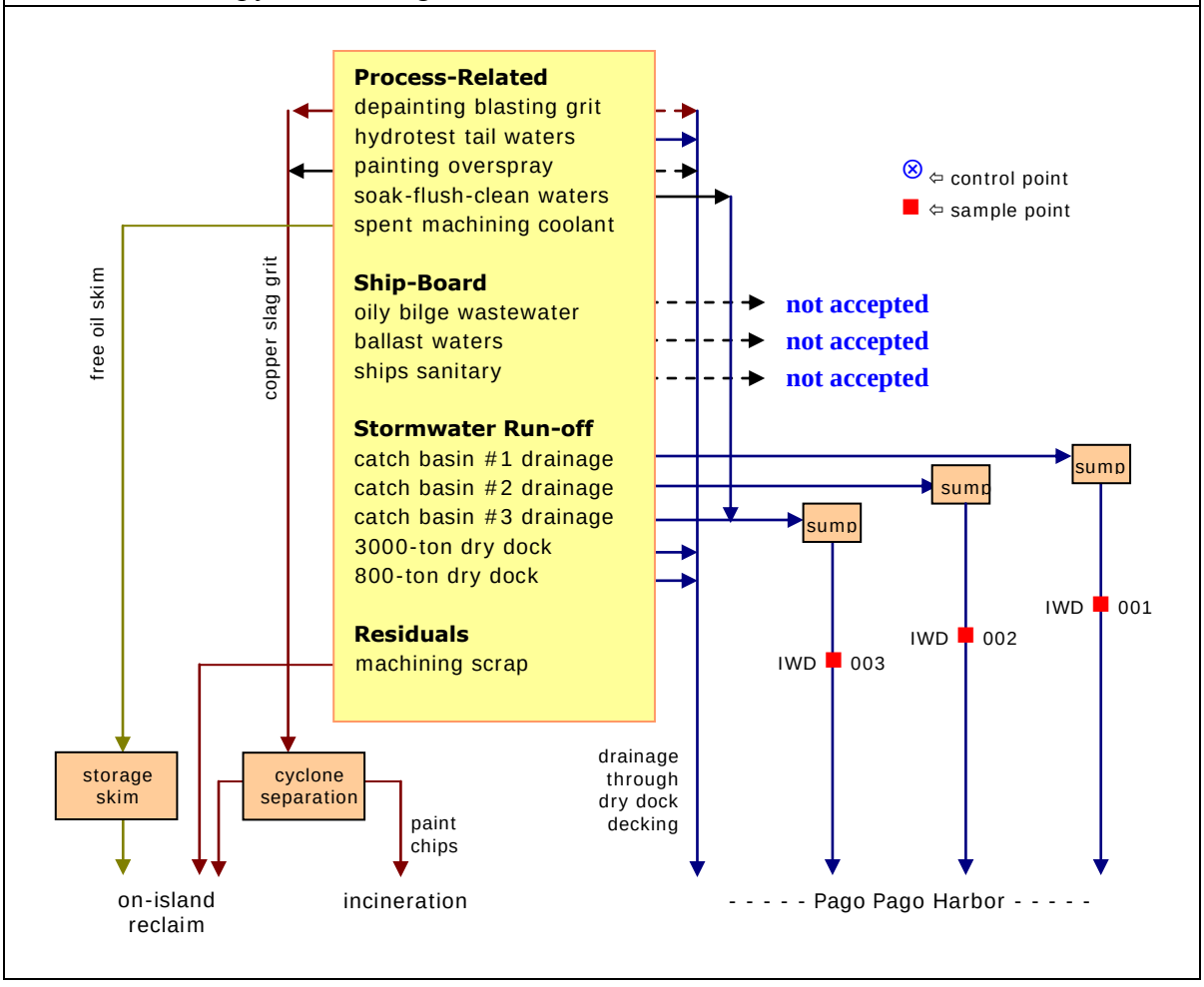
Other Operations - The buildings between the 3000-ton Dry Dock and the road include warehouses and a compressor building. The warehouse buildings were covered and enclosed. The covered but open compressor building housed two compressors, a diesel fuel tank within secondary containment, and used battery storage also within secondary containment.

1.4 Facility Wastewater Sources, Handling and Discharge

MYD Samoa would be expected to generate process-related wastewaters and storm water run-off from shipyard and shipboard sources. However, MYD Samoa accepts no shipboard sources of process-related wastewaters such as ballast, bilge, and ships sanitary wastes. Shipyard sources of process-related wastewaters includes hydroblasting, painting, sand blasting, grinding, fabrication, machining, chemical cleaning and hose flushing, hydrotesting, and perhaps the replacement of lead ballast and zinc anodes.

Storm water run-off would be expected from the 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. 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").

Figure 1.4
MYD Samoa Shipyard – Configuration



Depainting and Grinding Grit - Depainting involves both hand grinding and high-pressure blast abrasion of paint using copper slag grit. MYD Samoa employs a number of BMPs to control and capture spent grit and grinding residuals. These BMPs involve laying down plywood planking on the dry dock decking during sandblasting, broom deck sweeping of spent grit and residuals into piles, vacuum cyclone cleaning of piled-up spent grit to remove paint chips, and unfurling of portable curtains to keep the grit on the dry dock deck. New BMPs implemented in response to the EPA Order include the underlaying of new plywood with roofing felt, and the temporary use of plastic sheeting on the plywood surface. Vacuum cyclone cleaned grit is disposed by truck to a landfill under ASEPA approval. Removed paint chips are incinerated on-island.

On the day of this inspection, these BMPs were observed have been effective in keeping much of the spent grit out of the harbor. In particular, (1) many of the gaps in the decking were underlain with roofing felt; (2) there was little spent grit on the deck and none on the surrounding piers; (3) there was no wet grit residue left on the deck after sweeping; and (4) the stockpile of spent grit stored next to the 800-ton dry dock was removed. However, spent grit blown to the dry dock edges would not be captured until MYD Samoa installs the new curtains. See Photos #1, #2, #4, #5, and #6 in Section 1.6 on page 9.

Hydroblast Tail Waters – In response to the EPA Order, MYD Samoa indicated that hydro-blasting on-site involves the high-pressure water spray removal of only sea growth, slime, and salinity from just ship hulls. Hydroblast tail water at the Satala Shipyard 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 were not operable but that new ones were on order.

Soaking/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. However, tail waters generated from hose flushing would have to be drained to the harbor, either directly from an uncontrolled source such as the hose itself, or through the gaps in the dry dock deck, or through the controlled NPDES permitted points for storm water run-off if performed on the piers. An added BMP of confining hose flushing to the pier-side shops would eliminate their uncontrolled discharge from the dry dock to the harbor.

Machining and Fabrication - The machining and fabrication shops, located on the pier, 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. In addition, the paint chips from spent sand-blasting grit are removed through a vacuum cyclone occurs for incineration. 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. The ships themselves must make their own arrangements to handle these wastewaters.

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 be swept, in order, cleaned, and pressure washed, with no significant pollutant sources left exposed to contact with storm water run-off. The numerous pollutant sources observed last year were no longer found. In particular, the open storage of spent blasting grit and material debris adjacent to the 800-ton dry dock and the winch room was entirely removed. The trash piles, oily barrels, spent materials, and equipment on the landing were also removed. The pavement between the dry dock and harbor was pressure washed clean. There was curbing along the open harbor but not around the 800-ton dry dock. Catch Basin #1 drainage collects to a sump outfitted with siphon overflows to the harbor, designated as discharge point NPDES-001. 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 #3, #4, #7, #8, #9, and #10 in Section 1.6 on page 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 be swept, in order, and cleaned, with no significant pollutant sources exposed to contact with rainfall run-off. Spent blasting grit was not found on the landings north of the dry dock. 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 #11 in Section 1.6 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 be swept, in order, and cleaned, with no significant pollutant sources exposed to contact with rainfall run-off. Spent blasting grit was not found on the landings south of the dry dock. Zinc anodes, barrels, materials, scrap, and debris were no longer stored outside and around the fabrication and machining buildings. No boat repair work was being done by the ship crews on the South 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. No sheen was observed in the canal and harbor around NPDES-003. 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. See Photos #5, #6, and #12 in Section 1.6 on pages 9 and 10.

Dry dock Drainage – Rainfall runoff is expected to drain through the gaps in the dry dock decking (although there are now fewer gaps) or directly to into the open gap over the harbor between the uncurbed dry dock and the pier. The 3000-ton dry dock was observed during this inspection to have no significant pollutant sources exposed to contact with rainfall run-off. See Photos #1 and #2 in Section 1.6 on page 9.

1.5 Facility Wastewater Composition

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

Hydroblasting - The hydroblast tail waters would be expected to entrain sea growth, and little else as long as the dry docks are swept, clean and dry.

Hose Cleaning / Hydrotesting - Tail waters from hose cleaning and hydrotesting could be expected to contain caustic, phosphoric acid, bleach as disinfectant, and dislodged residues.

Ship-board Wastewaters – MYD Samoa does not collected bilge waters, ballast waters, or ships sanitary 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.

Rainfall Run-off – As long as MYD Samoa successfully implements its BMPs and keeps the shipyard and dry docks swept, cleaned, and in order, the drainages from the dry docks and catch basins would be expected to contain little or no free and emulsified oils, suspended solids, lead, or copper.

TMDL Pollutants - No specific sources of arsenic, mercury, or PCBs were identified during this inspection.

1.6 Photo Documentation

Ten of the 14 digital photographs taken during this inspection and, for comparison, four of the 22 taken during the 2008 inspection are depicted here in this section. The 2009 photos are saved as *samoa-myd-23.jpg through -36.jpg*.

Photo #1: 3000-Ton Dry Dock Decking – April 2008
Taken By: Greg V. Arthur
Date: 04/01/08

Photo #2: 3000-Ton Dry Dock Decking – April 2009
Taken By: Greg V. Arthur
Date: 04/27/09

Photo #3: End of the Pier – April 2009
Taken By: Greg V. Arthur
Date: 04/27/09

Photo #4: Eliminated Spent Grit Storage – April 2009
Taken By: Greg V. Arthur
Date: 04/27/09

Photo #5: Catch Basin #3 – April 2008
Taken By: Greg V. Arthur
Date: 04/01/08

Photo #6: Catch Basin #3 – April 2009
Taken By: Greg V. Arthur
Date: 04/30/09

Photo #7: Catch Basin #1 – April 2008
Taken By: Greg V. Arthur
Date: 04/01/08

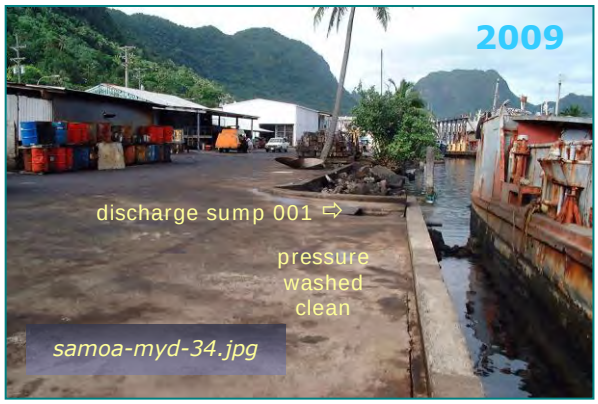


Photo #8: Catch Basin #1 – April 2009
Taken By: Greg V. Arthur
Date: 04/30/09

Photo #9: Discharge Sump 001 – April 2008
Taken By: Greg V. Arthur
Date: 04/01/08

Photo #10: Discharge Sump 001 – April 2009
Taken By: Greg V. Arthur
Date: 04/30/09

Photo #11: Discharge Sump 002 – April 2009
Taken By: Greg V. Arthur
Date: 04/27/09

Photo #12: Discharge Sump 003 – April 2009
Taken By: Greg V. Arthur
Date: 04/27/09

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 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 waste-waters. 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 stan-dards violations in the harbor. The permit does not specify all of the necessary BMPs.

Requirements

- The NPDES permit must specify all process-related wastewaters and industrial storm water drainage authorized to discharge to the harbor.

Recommendations

- All pertinent BMPs should be formally incorporated as NPDES permit requirements.
- A BMP-driven permit could apply only a limited set of limits for the indicator and TMDL-based pollutants (*oil and grease, flow, pH, arsenic, mercury, PCBs*).
- Quarterly self-monitoring should continue with samples that exceed permit limits triggering toxicity reduction evaluations resulting in new BMPs or treatment.

2.1 Permit Applicability

NPDES Permit AS0020036 was issued January 7, 2003 to expire on February 8, 2008. The Federal regulations in 40 CFR 122.21(d) allow the administrative extension of an NPDES permit if a permit application for renewal is submitted at least 180 days before it expires. MYD Samoa submitted its application 26 days late and thus has operated the Satala Shipyard without an NPDES permit in effect since February 8, 2008. The NPDES permit applied American Samoa water quality standards solely to industrial storm water from the three catch basins through only their sumps into Pago Pago Harbor, designated as the sample points NPDES-001, NPDES-002 and NPDES-003.

The NPDES permit does not explicitly permit the discharge of pollutants from other sources through other points of discharge. The identified but unauthorized discharges at MYD Samoa include the process-related wastewaters (*hydroblasting, hose cleaning, hydrotesting*), and the storm water drainage in contact with the dry dock deck to the harbor. However, the

NPDES permit implicitly does allow storm water drainage from the dry dock if MYD Samoa successfully implements the BMPs for the dry dock.

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 Conditions

See Sections 2.3, 2.4, 2.5 and 2.6 of the previous EPA inspection report issued on May 29, 2008 for further detailed descriptions of the current NPDES permit conditions.

Effluent Limits - The NPDES permit applies two effluent limits (*oil and grease @ 20.0 mg/l, pH @ 6.0 to 8.6 s.u.*) to all permitted wastewater discharges to the harbor. 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. The NPDES permit also applies water quality standards as effluent limits for anti-fouling agents (*copper, arsenic, mercury, tributyl-tin*), petroleum indicators (*benzene, ethylbenzene, toluene*), and ship repair materials (*copper, lead, zinc, chromium*) to NPDES-001 and NPDES-003.

Site-specific Prohibitions - The NPDES permit specifies prohibitions against (1) discharges of solid, hazardous, and radioactive wastes, floating materials, sheen, foam, oily wastewaters, shipboard wastes, and visible turbidity, (2) discharges that produce toxicity, or objectionable color, odor or taste in the harbor or biota, or form objectionable bottom deposits, and (3) discharges other than those authorized by the permit.

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) unfurling curtains during sandblasting and painting, (2) complete covering of the deck during sandblasting, (3) prohibition against applying or removing paint containing arsenic, mercury, lead, or tributyl-tin, (4) frequent sweeping and removal of debris, (5) proper storage and disposal of spent grit, (6) separation of paint wastes from slag grit, and (7) containment and clean-up of spills. NPDES permit implicitly allows storm water drainage from the dry dock with successful implementation of these BMPs.

Storm Water BMPs - The NPDES permit authorizes discharge of only storm water run-off from the three catch basin sumps in compliance with water quality standards. Toward these requirements, the permit implements BMPs intended to result in compliance with the water quality standards. The BMPs include (1) the routine cleanup of litter and debris in the shipyard and around the dry docks, (2) covered storage of used batteries, scrap, machinery, materials, and spent blasting grit, (3) secondary containment of used oils, paints and solvents, (4) labeling and posting of trash bins and spill threats, (5) and spill containment measures available on-site. The NPDES permit also 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.

2.4 Additional BMP Requirements

See Items 4 and 6 of the September 19, 2008 EPA Order, and the March 11, 2009 EPA comment letter, for detailed descriptions of additional corrective actions and BMPs.

MYD Samoa achieves compliance through the elimination of contact of pollutant sources with drainage. No treatment short of reverse osmosis or distillation can result in compliance with the American Samoa and TMDL-based water quality standards of 0.37 µg/l arsenic, 82 µg/l chromium^{+6}, 2.9 µg/l copper, 13.3 µg/l lead, 0.0425 µg/l mercury, 90 µg/l zinc, 0.12 µg/l tributyltin, and 15 mg/l oil and grease. Both reverse osmosis and distillation far exceed best-available-technology treatment and are unsuitable for high-rate storm water applications. As a result, MYD Samoa, with its pollutant sources identified, may be better regulated through a BMP-driven permit which sets as requirements the BMPs necessary for compliance. A BMP permit would apply only a limited set of limits for indicators (*oil and grease, pH, flow*) and TMDL-based pollutants (*arsenic, mercury, PCBs*). It would require samples exceeding standards to trigger toxicity reduction evaluations resulting in new BMPs or treatment.

Tables 4(a) and 6(a) of 2008 EPA Order advanced 16 additional corrective actions and BMPs to correct the widespread shortcomings identified in the previous EPA inspection. A few of these additional BMPs (#2, #3 and #7) are now found to be unnecessary or infeasible. The remaining 13, modified in response to this inspection, are still necessary to ensure that the discharges to the harbor comply with water quality standards. These additional requirements, expected to be included in the next NPDES permit, are listed in Tables 3.1 and 3.2 on page 17 of this report.

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.1-2, §I.B.1-4, §III.D.2-5, §III.E.1-2]

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.D.1-4]

Shipboard sources of wastewaters are prohibited from discharge. [NPDES Permit §I.B.4]

Summary

Compliance at MYD Samoa depends on the implementation of source controls. Numerous shortcomings in 2008 caused EPA to issue an Administrative Order. In essence, the Order required MYD Samoa 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, MYD Samoa was found to be much more effective in capturing blasting grit and minimizing rain water contact, but not to the absolute degree outlined in the Order. Nevertheless, the excellent condition of the shipyard on the second day of this inspection, if maintained every day, would largely prevent the discharge of pollutants to the harbor and thus result in compliance with the objectives of the Clean Water Act. A few shortcomings remain: (1) no curtains to capture solids drift, (2) the uncontrolled discharge of hydroblast tail waters, and (3) no self-monitoring results.

Additional BMPs to correct these shortcomings and to ensure the shipyard and dry dock remains swept, clean, and in order are listed in Tables 3.1 and 3.2 on page 17.

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.
- MYD Samoa must, to the greatest extent practical, keep the dry dock deck swept, clean, and in order, through the continuous capture and removal of solids.
- MYD Samoa must, to the greatest extent practical, minimize storm water contact with all process equipment, materials, debris, and wastes.
- MYD Samoa must release all hose cleaning and hydrotesting tail waters pier side for discharge through one of the NPDES permitted catch basin sumps.

Recommendations

- MYD Samoa should consider providing a connection for ships sanitary wastewaters to the ASPA domestic sewer system. See Figure 3.3 on page 16 of this report.

3.1 Dry Dock Wastewaters and Drainage

Section III.D of the NPDES permit requires implementation of a number of BMPs meant to control the discharge of spent blasting grit and paint overspray. The key BMPs are:

- Flooring is completely covered during the time of sandblasting to prevent grit material from falling through spaces in the slatted railway floor [§ III.D.1(c)].
- Grit-blasting wastes are properly stored under cover to prevent any contact with storm water [§ III.D.1(d)].
- Curtains are used on the sides of the railway when sandblasting and painting operations are under way to prevent the discharge of sandblasting materials, abrasives, paint chips, and paint overspray to the receiving water [§ III.D.1(a)].

Compliance Status - The dry dock was found with the gaps better sealed and the deck swept, clean, and in order. In particular, there was no blasting grit, paint debris, or overspray found on the dry dock deck or alongside on the piers. The design of the dry dock, with a split down the middle and crisscrossed with chain ways, forestalls the corrective actions advanced in the EPA Order to entirely seal the deck and direct all dry dock drainage for discharge through a controlled sample point. Nevertheless, continuous capture and removal of the solids from a curtain-shrouded and gap-sealed deck (roofing felt underlayer and temporary plastic sheeting) should prevent the loss of solids through deck gaps, over the deck edge, or entrained in storm water run-off and drainage. The EPA Order is expected to be modified to rescind the corrective actions related to controlled deck drainage. See Photos #1 and #2 on page 8.

Corrective Actions - A few remaining shortcomings have been identified following the EPA Order. First, there were no curtains available to capture drifting solids within the dry dock for removal, although MYD Samoa had them on order. Second, process-related wastewaters (*hydroblast, hose cleaning, hydrotesting*) discharge uncontrolled from the dry dock deck to the harbor beneath. Additional BMPs to correct these shortcomings and to ensure the shipyard and dry dock remain swept, clean, and in order are listed in Table 3.1 on page 17.

3.2 Shipyard Wastewaters and Drainage Sources

Sections I.B and III.D of the NPDES permit require implementation of a number of BMPs meant to prevent rainwater contact with contamination sources. The key BMPs are:

- Discharge shall be substantially free from visible floating materials, grease, oil, scum, foam, and other floating material attributable to sewage, industrial wastes, …[§ I.B.2].
- Routine cleanup of litter and debris in the yard and around the dry docks is performed to prevent accumulation and possible discharge to the receiving water [§ III.D.2(b)].
- Used batteries, used oil, paint, scrap metal, and unused machinery in the yard are stored under cover or disposed of … prevents receiving water contamination [§ III.D.2(c)].

Compliance Status – The pier side shipyard areas were found swept, clean, and in order, with all significant sources of contamination removed from rain water contact. In particular, on the second day of this inspection, trash, materials, equipment, zinc anodes, oily barrels, and spent blasting grit were no longer exposed to rainfall. These significant sources of contamination were found to be sheltered under a roof or removed from the site. The pavement was also observed on the second day of this inspection to have been pressure washed clean of oily staining. Finally, the drainages into and out of the catch basin sumps were found to be free of oily sheen. However, the pier side landings along the length of the 3000-ton dry dock are not curbed and in some areas appear to slope toward the gap between the dock and pier. It is likely that these areas do not drain through the three NPDES permitted catch basin sumps.

Corrective Actions – The excellent condition of the shipyard on the second day of this inspection, if maintained every day, would largely prevent drainage contact with contamination sources and thus the discharge of pollutants from the catch basins to the harbor. This would forestall a corrective action advanced in the EPA Order to install pier side curbing around the dry dock, so all drainage discharges through catch basin sumps. Additional BMPs to ensure that the shipyard remains swept, clean, and in order are listed in Table 3.2 on page 17.

3.3 Ship-board Wastewaters Sources

Compliance Status - The BMPs prohibit the discharge of any wastewater from any vessel within Pago Pago Harbor. Although ships continue to generate shipboard wastewaters while in dock, there was no observed evidence of discharge from shipboard sources.

Figure 3.3
Schematic of Possible Upgrades - Ship-board Wastewater Handling

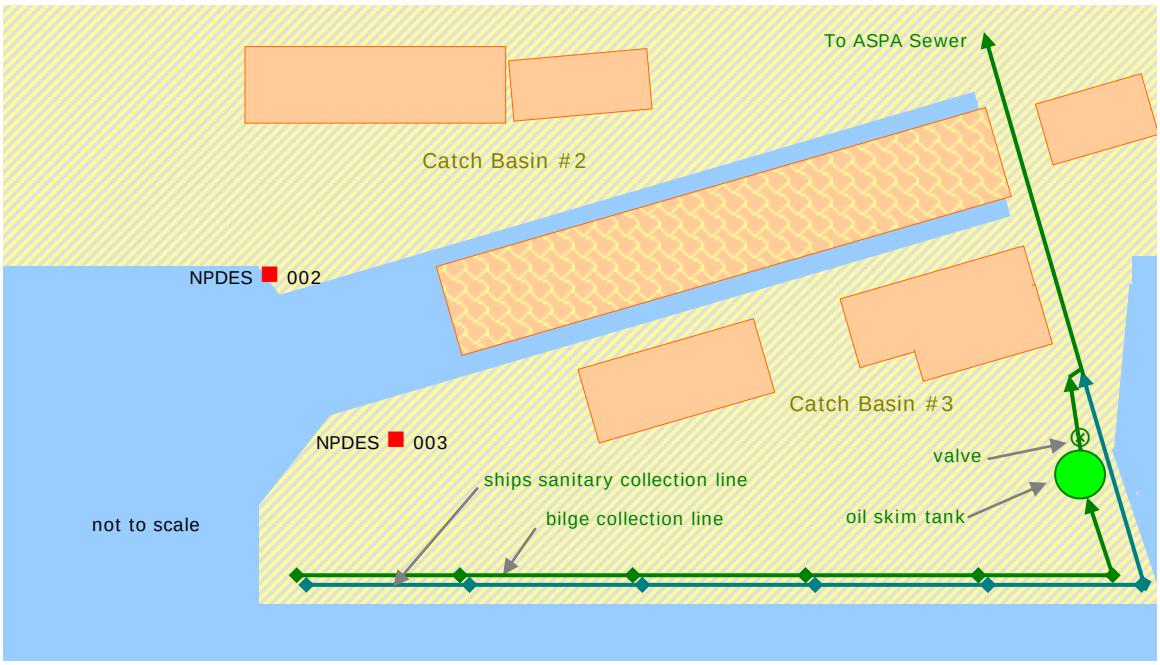


Table 3.1
MYD Samoa Shipyard – Modified Additional BMPs for Dry Docks

#1	The dry dock decks shall be sealed to the greatest extent practical in order to prevent the loss of solids into the harbor through gaps in the decking.
#4	The dry dock deck shall not be rinsed off with water, nor shall water be used to collect spent blasting grit or remove solids from vessel exteriors.
#5	At the end of each shift, the capture of solids (*blasting grit, removed scale, trash, rust*), the removal of these solids from the dry dock deck through and broom or vacuum cleaning shall be done in order to prevent solids entrainment in storm water runoff.
#6	Hull hydroblasting shall occur only after the dry dock is broom or vacuum cleaned to prevent the wash down of contaminants (*solids, spills, oils, etc.*) with the tail waters.
#8	Hose cleaning and hydrotesting shall be *done pier side* so that tail waters drain into the harbor through one of the three NPDES permitted catch basin sumps.
#9	ASEPA shall be notified the day before any planned submergence of a dry dock; and the submergence shall not proceed until ASEPA has approved the condition of the dry dock and authorized its submergence in writing.
#10	The use of corrosion inhibitors (nitric-acid bearing) in wet sandblasting and the accumulation of hazardous wastes shall be prohibited.

Table 3.2
MYD Samoa Shipyard – Modified Additional BMPs for Shipyard Operations

#11	Secondary containment always shall be deployed around all materials, paints, fuel, containers, drums, trash heaps, hazardous materials storage, tooling and mechanized equipment exposed to rainfall on the dry docks or on shore.
#12	Anodes and ballast shall be covered to prevent contact with rain and storm water runoff; spent anodes and ballast shall be contained within drums or sealed crates.
#13	Collected spent blasting grit shall be stored in a way that prevents contact with rainfall or storm water run-off.
#14	All captured runoff from contact with contamination sources either shall be treated through settling and oil skimming prior to discharge to the harbor or shall be directed into the domestic ASPA sewers.
#15	Pier side curbs along the harbor shall be maintained; pier side curbs surrounding the dry docks shall be built *if the landings are not maintained swept, cleaned, and in order*.
#16	There shall be self-certifications of no discharge to the harbor of fuel oil, oil sludge, oil refuse, bilge water, ballast waters, ships sanitary, or any other wastewaters from any vessel berthed at the shipyard or in dry dock.

4.0 Compliance with NPDES Permit Monitoring Requirements

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

Because the NPDES permit is expired, the September 19, 2008 EPA Order establishes the self-monitoring requirements for the discharges from the three catch basin sumps to the harbors. Item 8 of the EPA Order required one year of self-monitoring beginning in October 2008 for visible sheen every workday; for oil and grease, total suspended solids, and pH once per month; and for hexavalent chromium, copper, mercury, tributylin, zinc, and arsenic once every six-months. Item 9 of the EPA Order required one year of monthly summaries to self-report on shipyard operations. These self-monitoring requirements have not been met as of yet. MYD Samoa has since asserted that tributyltin is not found in sandblasted paint chips, and that hold times disqualify hexavalent chromium samples from usefulness.

As a result, the EPA Order is expected to be modified to (1) eliminate tributyltin self-monitoring, (2) replace hexavalent chromium self-monitoring with total chromium, and (3) extend the self-monitoring requirements through reissuance of the NPDES permit.

Requirements

- MYD Samoa must self-monitor as required by the EPA Order.

Recommendations

- None.