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

February 25, 2011

In Reply Refer To: WTR-7

Nick King, Acting Terminal Manager
Pacific Energy, South-West Pacific, Ltd.
P.O. Box 488
Pago Pago, Tutuila, American Samoa 96799

Re: September 27, 2010 Clean Water Act Inspection
And Termination of EPA Administrative Order CWA-309(a)-09-011

Dear Mr. King:

Enclosed is the February 25, 2011 report for our September 27, 2010 inspection of the American Samoa Terminal. Please submit a short response to the findings in Sections 1 through 3 of this report to EPA and ASEPA, by **April 30, 2010**. The main findings are summarized below:

1 The August 5, 2010 reissuance of the NPDES permit resolves all remaining issues of the March 19, 2009 EPA Administrative Order. Therefore the Order is now terminated.

2 Fuel drips, spills, entrainment, mishandling, and other losses of fuel into the storm water drainage constitute the only identifiable threat to water quality posed by Pacific Energy. Toward this threat, the source controls, operational procedures, and on-site oil water separators are well designed and implemented to effectively prevent the loss and release of fuels. Sampling confirms this conclusion.

3 The sampling also indicates that the discharge does not consistently comply with the water quality standards for nutrients and pH as they are currently applied in the permit. Trace nutrient levels likely are unrelated to fuel contamination. Slightly below neutral pH measurements could reflect the lack of calibrated pH metering or the natural weak acidity expected in uncontaminated and un-buffered storm water drainage.

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 call Greg V. Arthur of my staff at (415) 972-3504, or e-mail arthur.greg@epa.gov.

Sincerely,

Original signed by:

Ken Greenberg
Chief, Clean Water Act 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:	Pacific Energy, South-West Pacific, Limited (NPDES Permit No. AS0020028)
Facility:	American Samoa Terminal (Utulei Petroleum Terminal, Fuel Dock, and Tank Farm) P.O. Box 488, Pago Pago, Tutuila Island, American Samoa
Receiving Water:	Pago Pago Harbor
Date of Inspection:	September 27, 2010

Inspection Participants:

US EPA:	Greg V. Arthur, CWA Compliance Office, (415) 972-3504
American Samoa Govt:	None.
Pacific Energy:	Nick King, Assistant Terminal Manager, (684) 633-5331
Report Prepared By:	Greg V. Arthur, Environmental Engineer, USEPA Region 9
	February 25, 2011

1.0 Scope and Purpose

On September 27, 2010, EPA conducted an NPDES compliance evaluation inspection of the American Samoa Terminal, which is operated under lease by Pacific Energy, South-West Pacific, Limited. The purpose was to ensure compliance with the NPDES permit and applicable Federal regulations covering the discharge of non-domestic wastewaters and storm water run-off into waters of the United States. 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 American Samoa Terminal is one of the dischargers of storm or industrial wastewater to waters of the United States whose compliance was assessed as part of the 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 September 27, 2010.

1.1 Background

The American Samoa Government owns the American Samoa Terminal. The US Navy constructed the terminal and turned over ownership after World War II. In 2010, Pacific Petroleum Company, a French Polynesia company, dba Pacific Energy, South-West Pacific, Ltd., assumed operation of these assets from the former lease holder, British Petroleum. The operations remained unchanged. Pacific Energy receives by ship, the product supplies of gasoline, low-sulfur diesel, high-sulfur marine diesel, and jet fuel A-1 at the fuel dock, which is located a little over a half-mile to the west with pipelines leading to the petroleum terminal. Fueling of vessels also occurs at the fuel dock. The terminal consists of ten functioning tanks for storage and delivery. The tanks are double-bottomed and roofed. The tank farm and fueling areas are bermed, graded and sized to provide secondary containment.

US EPA issued NPDES permit No.AS0020028 to Pacific Energy to take effect on October 1, 2010. The permit authorizes discharges from the terminal to the harbor through one outfall (Outfall 002), and from the fuel dock to the harbor through a second outfall (Outfall 003). The current version of the permit will expire on September 30, 2015. The previous version of the permit was issued to British Petroleum.

On March 19, 2009, EPA issued a Finding of Violation to British Petroleum for a failure to monitor as required under the previous version of the NPDES permit, and an Administrative Order requiring a modified self-monitoring program. The Order, later modified, specifically required British Petroleum to (1) establish accessible sampling stations at the four oil water separators, (2) conduct self-monitoring, first weekly and then quarterly, of storm water drainage through the oil water separators, (3) conduct additional self-monitoring to account for all of the process wastewater discharges unrelated to storm events, and (4) document and

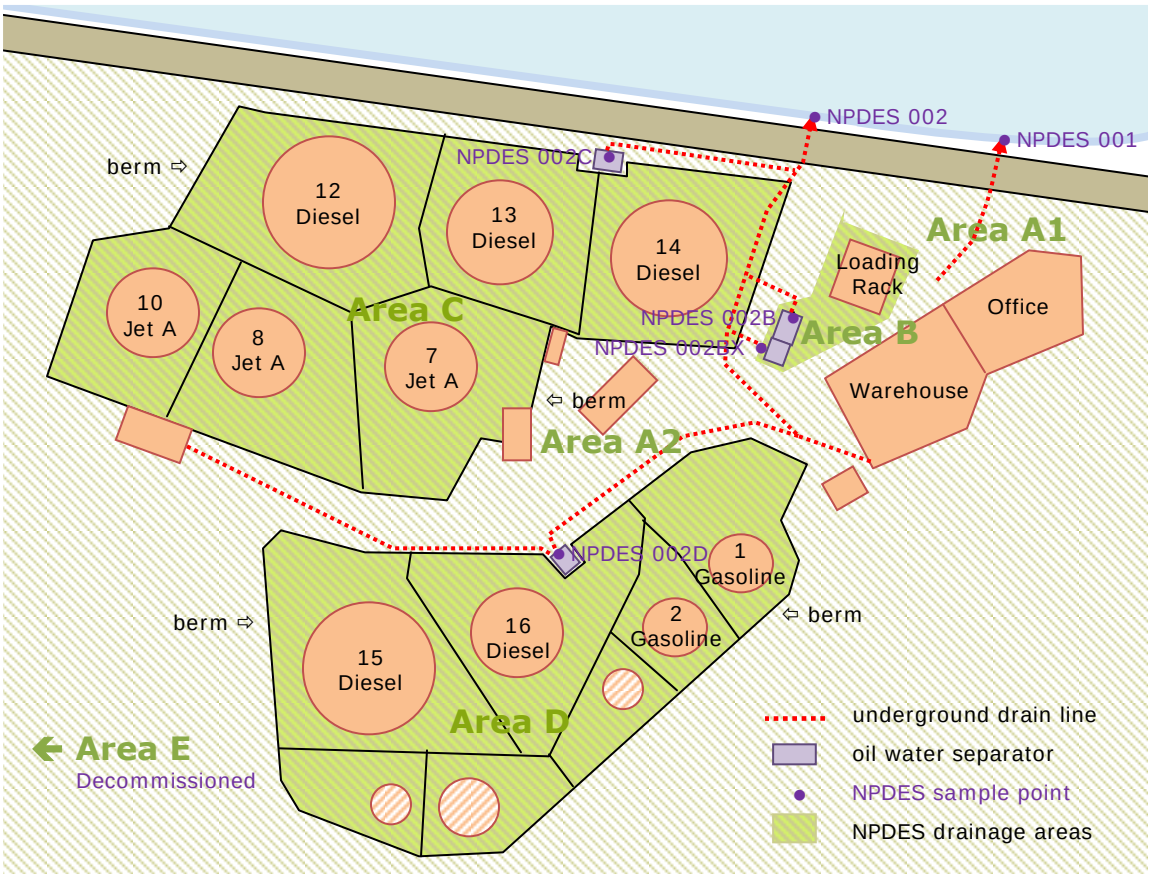
report all discharges of process wastewaters unrelated to storm events. The current version of the permit issued to Pacific Energy incorporated these self-monitoring requirements. See Section 2.0 on page 11 for further description of requirements of the NPDES permit.

1.2 Facility Description

The American Samoa Terminal operations consists of a main terminal, pipelines, and tank farm, a satellite fuel dock located on the harbor to the west, and a tank farm and pipelines at the airport. The configuration of the petroleum terminal and fuel dock has remained substantially unchanged since the last EPA inspection in 2009. See the photo documentation of this inspection in Section 1.5 of this report on pages 9 and 10.

Petroleum Terminal – The operations at the petroleum terminal involve the loading of tanker trucks, fuel storage for distribution, and the pipeline delivery to and from the fuel dock.

Figure 1.2.1
American Samoa Terminal, Utulei Petroleum Terminal - Layout



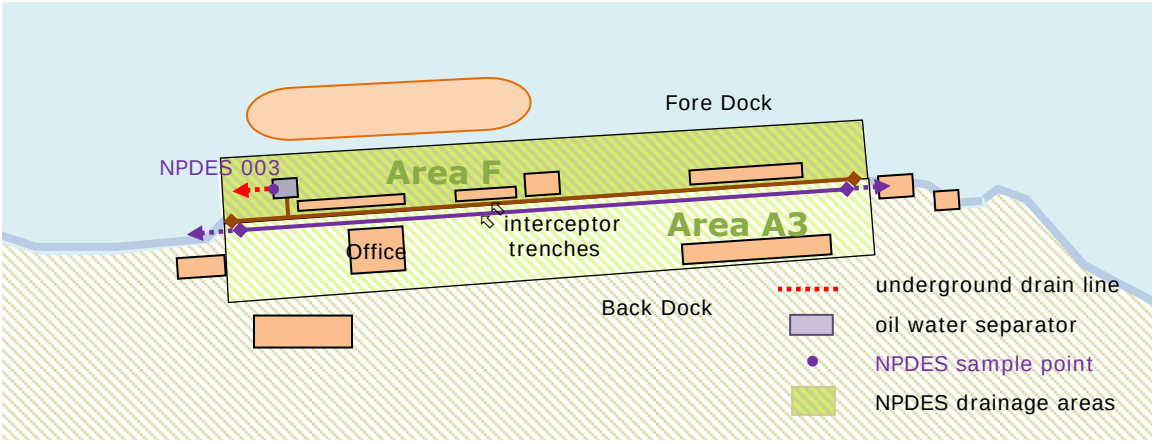
There are four drainage areas currently regulated under the NPDES permit for discharge to the harbor. Area B encompasses the bottom fill loading dock and adjacent paving. Area C

encompasses six tanks within the concrete berming. Area D encompasses four tanks within the concrete berming and the now dismantled top fill loading rack. Area A2 encompasses the paved areas between the tank farms. The NPDES permit formerly regulated Area A1 which encompassed the parking lot and paving around the office, and the office roof drainage, and Area E which encompassed two out-of-service tanks within earthen berms to the west.

Tank#	Capacity (gals)	Contents	Tank Design	Drainage
1	525,000	gasoline	fixed external / floating internal roof	NPDES 002D
2	525,000	gasoline	fixed external / floating internal roof	NPDES 002D
7	1,041,348	jet A1	fixed roof / cone down bottom	NPDES 002C
8	1,041,348	jet A1	fixed roof / cone down bottom	NPDES 002C
10	1,041,348	jet A1	fixed roof / cone down bottom	NPDES 002C
12	2,280,306	diesel	fixed roof	NPDES 002C
13	1,008,504	diesel	fixed roof	NPDES 002C
14	2,280,306	diesel	fixed roof	NPDES 002C
15	2,236,710	diesel	fixed roof	NPDES 002D
16	1,004,430	diesel	fixed roof	NPDES 002D

Fueling Dock – The operations at the fueling dock involve the unloading of oil tankers and the fueling of marine vessels. There is one drainage area regulated under the NPDES permit for discharge to the harbor. Area F encompasses the fore dock which houses the delivery hose reels and valving within separate and dedicated secondary containment berms. The fore dock is sloped toward the shore in order to drain to the outside uncovered interceptor trench that leads to an oil water separator for discharge under the NPDES permit to the harbor. Area A3 encompasses the back dock which slopes to drain non-contact storm water into the inside interceptor trench to the harbor. The NPDES permit does not cover Area A3 drainage.

Figure 1.2.2
American Samoa Terminal, Fuel Dock – Layout



Airport Tank Farm – This inspection also did not cover the airport tank farm. The June 2003 SPCC plan describes the tank farm as consisting of six tanks within secondary containment berms. The NPDES permit does not cover any drainage from the airport tank farm.

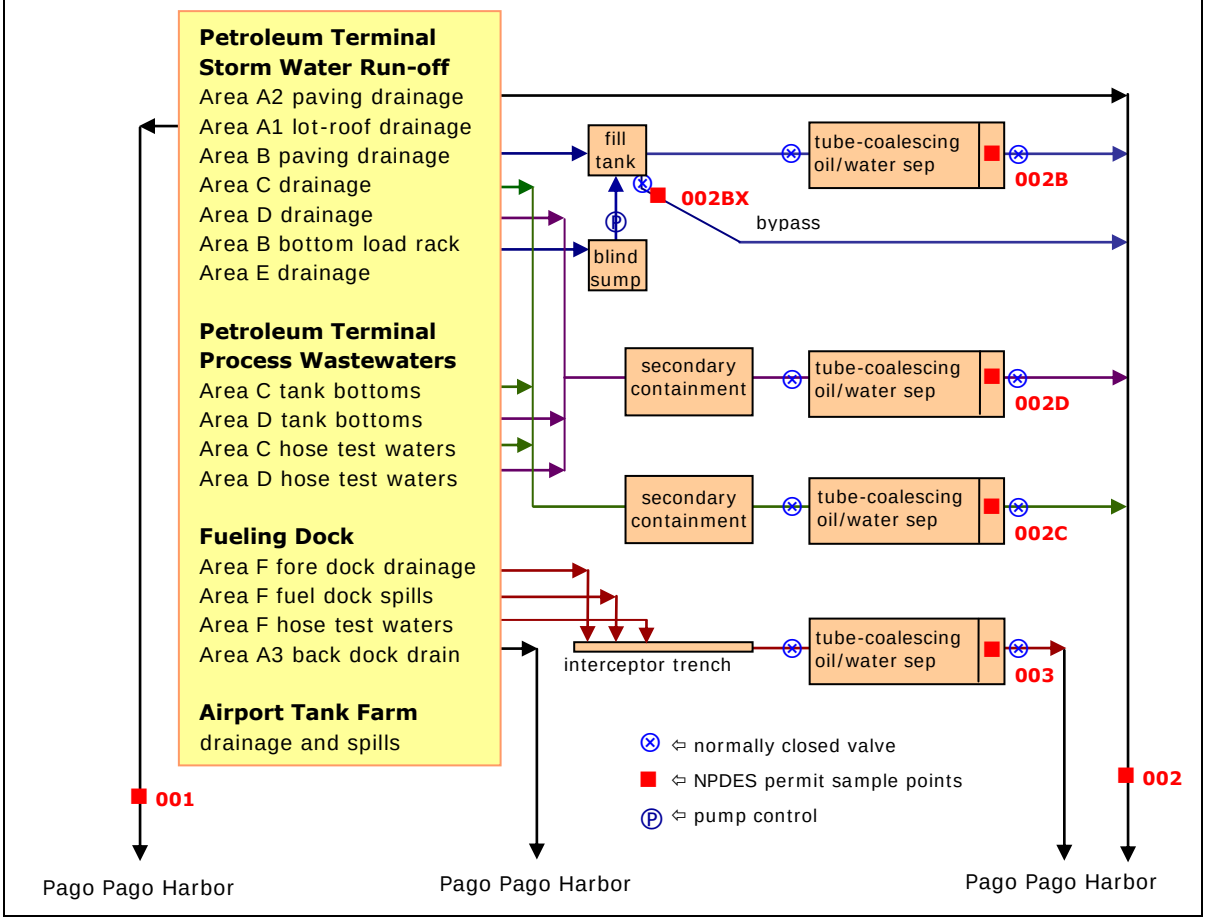
Tank#	Capacity (gals)	Contents	Tank Design	Drainage
A1	25,200	jet A1	horizontal steel / fixed roof	none
A2	25,200	jet A1	horizontal steel / fixed roof	none
A3	25,200	jet A1	horizontal steel / fixed roof	none
A4	25,200	jet A1	horizontal steel / fixed roof	none
A5	20,000	jet A1	horizontal steel / fixed roof	none
A6	20,000	jet A1	horizontal steel / fixed roof	none

Waste Oil - Pacific Energy purchased waste oil centrifuge in order to provide on-island waste oil and waste oily water handling.

1.3 Facility Wastewater Sources, Handling, Control, and Discharge

The Pacific Energy, South-West Pacific operations generate contact and non-contact storm water run-off, tank bottoms condensation, and hose pressure hydrotest waters. The generation and handling of facility wastewaters has remained substantially unchanged since the last EPA inspection in 2009.

Figure 1.3
American Samoa Terminal – Configuration



See Figures 1.2.1 on page 3 and 1.2.2 on page 4 in Section 1.2 of this report for the layout and drainage areas of the petroleum terminal and the fueling dock.

1.3.1 Wastewater Sources

Tank Bottoms – The small amount of condensate and entrained waters within the product tanks are drained weekly. The tank bottom taps are each outfitted with a locked and normally closed valve. Each tank bottom tap drains to a small capture tank installed over a bermed catch pan, both also valved as normally closed. The tank bottoms are released, after visual observation and log-out tag-out procedures, from the bermed catch pans to the tank farm pad draining to the Area C or Area D oil water separators. Tank bottoms would be expected to contain steady levels of emulsified and free petroleum distillates.

Loading Rack Drainage – The bottom fill loading rack is used to load tanker trucks. It is underlain by floor drains which lead beyond the rack perimeter to a 6,000 gallon blind sump tank which after visual inspection is pumped to a pre-filler surge tank for the Area B oil water separator. The bottom fill loading rack is covered, and surrounded by berms and raised contouring to minimize storm water run-off into the floor drains. Incoming fuel filtering also generates removed water filtrate. The top fill loading rack is now dismantled. Spills, wash-downs, fuel filter bottoms, and drainages would be expected to contain fluctuating levels of free and emulsified petroleum distillates.

Tank Farm Drainage – The secondary containment around the product tanks captures storm water run-off in contact with the tanks or with spilled product. Storm sewers within containment drain run-off, spills, and released tank bottoms to the Area C and Area D oil water separators. The tank farm drainages would be expected to contain low levels of free and emulsified petroleum distillates.

Fuel Dock Drainage – The fore dock is bermed and sloped to drain to an interceptor trench which leads to the Area F oil water separator. The filler hose reels on the fore dock are also within their own berms with valving as normally closed. Fuel dock drainage would be expected to contain low levels of free and emulsified petroleum distillates.

Hose Pressure Test Water – The filler hoses are pressure tested with water. The hose pressure test tail waters are drained to the oil water separators. Hose pressure test waters would be expected to contain trace levels of free and emulsified petroleum distillates.

1.3.2 Facility Wastewater Source Controls

Source Controls – Pacific Energy employs a number of operational and design controls facility-wide to minimize product loss into the storm drainages and then to the harbor. Some of the more significant source controls are listed below:

- All product tanks are surrounded by secondary containment.
- All product tanks are level checked daily to identify leakage.

- All product tanks are double bottomed.
- All product tanks have ports for visual observation.
- All tank bottom taps are valved normally closed, locked, and drained to visual observation tanks and catch pans also valved normally closed.
- The on-site storm water drainage systems discharge through tube coalescing oil water separators with their inlets, bypasses, and outlets all valved normally closed. Pacific Energy removes the separated oil fraction by vacuum truck. See Photo #1-1 in Section 1.5 of this report on page 9.
- The four oil water separators are each surrounded by secondary containment.

1.3.3 Outfall 001 Drainage Controls

Area A1 Drainage (Non-Contact) – Storm water run-off from the parking lot and other non-operational paved areas on the east side of the property, including the building roof drainage, discharges through a storm water culvert to the harbor, designated in the previous NPDES permit and here as NPDES-001. Area A1 non-contact drainages are not regulated under the current permit. Raised pavement serves as the "continental divide" between the unregulated non-contact Area A1 and the permit regulated bottom fill loading rack in Area B. See Photos #1-2 and #1-3 in Section 1.5 of this report on page 9.

1.3.4 Outfall 002 Drainage Controls

Area A2 Drainage (Non-Contact) – Storm water run-off from the paved access roadways between the Area B bottom fill loading rack and the Area C and D tank farms, discharges through the facility storm water culvert leading to the harbor, which is designated in the permit as NPDES-002. Drainage from this area is considered non-contact and discharges without treatment. See Photos #1-3, #1-4, and #1-5 in Section 1.5 of this report on page 9.

Area B Drainage – Spills, wash down, and drainage from the bottom fill loading rack collect into a blind sump tank through floor drains. The sump contents are pumped into a pre-filler surge tank. Storm water run-off from the surrounding paved areas also drain into the surge tank, which is operated to release through an oil water separator. There is normally closed valving into and out of the oil water separator and out through a bypass line. The Area B oil water separator discharges to the facility storm water culvert leading to the harbor, which is designated in the permit as NPDES-002. The Area B oil water separator effluent is designnated in the permit as NPDES-002B and the bypass line is designated as NPDES-002BX. See Photos #1-6 on page 9 and #1-7 on page 10 in Section 1.5 of this report.

Area C Drainage – Spills, tank bottoms, storm water run-off, and drainage from Area C collect within secondary containment. The flows drain through a tube coalescing oil water separator, with normally closed valving in and out, to the facility storm water culvert leading to the harbor, which is designated in the permit as NPDES-002. The Area C oil water separator effluent is designated in this report as NPDES-002C. See Photo #1-8 in Section 1.5 of this report on page 10.

Area D Drainage – Spills, tank bottoms, storm water run-off, and drainage from Area D collect within secondary containment. The wastewaters from Area D drain through a tube coalescing oil water separator, with normally closed valving in and out, to the facility storm water culvert leading to the harbor, which is designated in the permit as NPDES-002. The Area D oil water separator effluent is designated in the permit as NPDES-002D. See Photo #1-9 in Section 1.5 of this report on page 10.

Area E Drainage (Non-Contact) – Storm water run-off from the decommissioned Area E tank farm discharges to a stream leading to the harbor. The discharge point was designated as NPDES-005 in an old permit but no longer is referenced in the NPDES permit since non-contact drainages are unregulated. See Photo #1-10 in Section 1.5 of this report on page 10.

Other Properties (Non-Contact) – The facility storm water system discharging to the harbor through NPDES-002 outfall also receives storm water run-off from the unaffiliated property behind the warehouse and from sidewalk curbed area along the frontage road.

1.3.5 Outfall 003 Drainage Controls

Area A3 Drainage (Non-Contact) – The fueling dock consists of a fore dock and a back dock, separated by a curbing with interceptor drains on either side. The Area A3 back dock does not discharge through the NPDES 003 outfall. Instead, the back dock encompasses the paved access to the fueling dock, with the storm water run-off from the back dock draining into the inside interceptor trench for direct discharge to the harbor. Area A3 drains unregulated by the NPDES permit and without treatment because it is considered non-contact. See Photo #1-11 in Section 1.5 of this report on page 10.

Area F Drainage – Spills, storm water run-off, and drainage from the fore dock collect within secondary containment curbing around the dock into the outside interceptor trench. The Area F wastewaters are released through a tube coalescing oil water separator, with normally closed valving in and out, to the harbor underneath the dock. The Area F oil water separator effluent is designated in the permit as NPDES-003. See Photo #1-12 in Section 1.5 of this report on page 10.

1.4 Facility SIC Code

The American Samoa Terminal is assigned the SIC code for facilities engaged in the wholesale distribution of crude petroleum and petroleum products from bulk liquid storage facilities (SIC 5171).

1.5 Photo Documentation

Twelve of 13 digital photographs taken of Pacific Energy during this inspection are depicted here. The photos are saved as *samoa-01-*date*.jpg to samoa-13-*date*.jpg*.

Photo #1-1: Mesh Tube Coalescing Oil Water Sep
Taken By: Greg V. Arthur
Date: 09/27/10

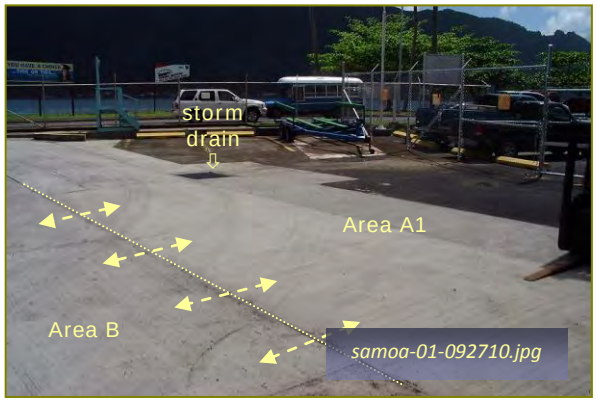


Photo #1-2: Area A1 - Non-Contact Drainage
Taken By: Greg V. Arthur
Date: 09/27/10

Photo #1-3: Areas A1/A2 - Non-Contact Drainage
Taken By: Greg V. Arthur
Date: 09/27/10

Photo #1-4: Area A2 - Non-Contact Drainage
Taken By: Greg V. Arthur
Date: 09/27/10

Photo #1-5: Area A2 - Non-Contact Drainage
Taken By: Greg V, Arthur
Date: 09/27/10

Photo #1-6: Area B – Bottom Fill Loading Rack
Taken By: Greg V. Arthur
Date: 09/27/10

The photos on this page depict the four NPDES discharge points as well as the fueling dock and decommissioned tank farm west of the petroleum terminal.

Photo #1-7: Area B - NPDES 002B Sample Point
Taken By: Greg V. Arthur
Date: 09/27/10

Photo #1-8: Area C – NPDES 002C Sample Point
Taken By: Greg V. Arthur
Date: 09/27/10

Photo #1-9: Area D – NPDES 002D Sample Point
Taken By: Greg V. Arthur
Date: 09/27/10

Photo #1-10: Area E – Decommissioned Tanks
Taken By: Greg V. Arthur
Date: 09/27/10

Photo #1-11: Area F/A3 – Fueling Dock
Taken By: Greg V. Arthur
Date: 09/27/10

Photo #1-12: Area F – NPDES 003 Sample Point
Taken By: Greg V. Arthur
Date: 09/27/10

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 process wastewaters and storm water drainage to the harbor. It establishes technically-based discharge limits for oil & grease and American Samoa water quality standards for pH, turbidity, lead, zinc, nutrients, and fuel compounds, as well as a few narrative receiving water limits. The permit appropriately applies effluent limits and self-monitoring requirements to the five contact discharges from the four oil water separators themselves, since all contact wastewaters discharge through them. The permit also appropriately applies a limit and self-monitoring requirement for visual sheen at the outfalls from the terminal and the fueling dock. The permit appropriately no longer covers the storm water discharges from non-operational areas.

Requirements

- None.

Recommendations

- None.

2.1 Permit Applicability

NPDES Permit AS0020028 was issued to Pacific Energy to become effective on October 1, 2010 and to expire on September 30, 2015. The previous version of the permit was issued to British Petroleum to become effective on March 10, 2003, to expire on March 9, 2008, and administratively extended until issuance of the new permit. The 2010 permit applies American Samoa water quality standards to process wastewaters and storm water drainages, discharged through one fueling terminal outfall and the fueling dock, and designated in the permit and this report as the sample points NPDES-002 and NPDES-003.

2.2 Federal BAT/NSPS Categorical Standards

No Federal categorical standards apply. The Federal standards in 40 CFR 419 apply to petroleum refineries and not fuel tank farms and fueling stations.

2.3 NPDES Permit Conditions

See Sections 2.3, 2.4 and 2.5 of the EPA inspection report issued to British Petroleum on March 7, 2009 for the detailed descriptions of the previous 2003 NPDES permit conditions.

Effluent Limits - The current 2010 NPDES permit applies effluent limits to the wastewater discharges to the harbor through two outfalls, one for the petroleum terminal (designated in the permit as NPDES-002), and the other from the fueling dock (designated as NPDES-003). The NPDES permit establishes sample points for the four oil water separators that handle all contact drainage and process-related wastewaters for discharge into the two outfalls. These sample points are designated in the permit after the outfall number and the drainage area as sampling points 002B, 002C, 002D, and 003. A fifth sample point for the emergency bypass of the Area B oil water separator is designated in the permit as 002BX.

Table 2.3.1
2010 NPDES Permit Effluent Limits

2010 NPDES Permit Limits - Part A(1)	Discharge Limits			Self-Monitoring				
	mo-avg	d-max	instant	002	002B/X	002C	002D	003
flow (mgd)	-	-	-	-	1/week	1/week	1/week	1/week
visual sheen (observed)	-	-	none	1/week	-	-	-	1/week
oil & grease (mg/l)	-	15	-	-	1/month	1/month	1/month	1/month
pH (s.u.)	-	-	6.5-8.6	-	1/week	1/week	1/week	1/week
turbidity (NTU)	-	0.75	-	-	1/week	1/week	1/week	1/week
lead (µg/) ⑤	6.9	14	-	-	1/month	1/month	1/month	1/month
zinc (µg/l) ⑤	47	95	-	-	1/month	1/month	1/month	-
total nitrogen (µg/l)	163	328	-	-	1/month	1/month	1/month	-
total phosphorus (µg/l)	24.5	49.1	-	-	1/month	1/month	1/month	-
ammonia (µg/l)	-	-	-	-	-	1/month	1/month	-
benzene (µg/l) ①③⑤	-	-	-	-	1/month	1/month	1/month	1/month
ethylbenzene (µg/l) ③⑤	2100	4221	-	-	1/month	1/month	1/month	1/month
toluene (µg/l) ①③⑤	-	-	-	-	1/month	1/month	1/month	1/month
xylene (µg/l) ①③⑤	-	-	-	-	1/month	1/month	1/month	1/month
EPA 624/625 (µg/l) ②③	-	-	-	-	1/quarter	1/quarter	1/quarter	1/quarter
priority pollutants ④⑤	-	-	-	-	1/year	1/year	1/year	1/year
BOD (mg/l)	-	-	-	-	-	1/month	1/month	-
COD (mg/l)	-	-	-	-	-	1/month	1/month	-
TSS (mg/l)	-	-	-	-	-	1/month	1/month	-
TDS (mg/l)	-	-	-	-	-	1/month	1/month	-
salinity (g/l)	-	-	-	-	-	1/month	1/month	-
temperature (°C)	-	-	-	-	-	1/month	1/month	-

① Self-monitoring can reduce to quarterly after two years of "no potential to exceed" standards.
② Self-monitoring can reduce to semiannually after two years of "no potential to exceed" stds.
③ EPA 624 covers volatile organics including benzene, ethylbenzene, and toluene.
④ EPA 624/625 covers the volatile and semi-volatile organics in the priority pollutants scan.
⑤ Priority pollutant scans cover lead, zinc, benzene, ethylbenzene, toluene, and xylene.

The 2010 permit established BPJ ("best professional judgment") technology-based effluent limits and self-monitoring requirements for oil & grease. All other permit effluent limits were based on the end-of-pipe application of the American Samoa water quality standards without adjustment. From an EPA analysis of the reasonable potential to exceed standards,

the current version of the NPDES permit sets water quality-based effluent limits and self-monitoring requirements for pH, turbidity, lead, zinc, total nitrogen, total phosphorus, and ethylbenzene, and self-monitoring requirements for benzene, toluene, xylene, EPA-624 volatile organics, and EPA-625 semi-volatile organics.

Receiving Water Limits - The NPDES permit also applies narrative receiving water limits for the discharge into the harbor, but does not require self-monitoring. Among the various provisions are prohibitions against (1) visible oily sheen, (2) oil deposits, (3) biota damage, (4) objectionable odors or taste in the harbor or biota, (5) undesireable aquatic life, or (6) toxicity. The permit requires only weekly visual monitoring for oily sheen at both harbor outfalls, NPDES-002 and NPDES-003.

Pollution Prevention Plan - The NPDES permit requires the development and implementation of a pollution prevention plan. The July 2003 plan for the American Samoa Terminal established a number of site-specific best management practices ("BMPs") pertinent to the water quality of discharges from the facility. The reissued permit continues to require implementation of the BMPs.

Self-Monitoring Requirements - The NPDES permit does not limit self-monitoring to the discharge of storm water drainages but it does imply that sampling needs to occur in response to storm events since the flow estimates are based on the amount of rainfall. The self-monitoring during storm events was found to also account for the de-minimus tank bottoms and hose test waters that are generated irrespective of storm events. These process wastewaters are impounded by the containment and oil water separators until Pacific Energy needs to discharge storm water drainage through the oil water separators to the harbor.

3.0 Compliance with NPDES Permit Requirements

- *Wastewater discharges are authorized into the harbor from three terminal oil water separators and one fuel dock oil water separator. [NPDES Permit §I.A and II.A]*
- *Wastewater discharges must comply with the NPDES permit discharge limitations set forth as the application both of Federal standards and American Samoa water quality standards. [NPDES Permit §I.A Table 1]*
- *Wastewater discharges must not result in adverse impacts in the receiving waters as defined by narrative standards. [NPDES Permit §I.B and I.C]*
- *The facility must develop and implement BMPs designed to control the discharge of pollutants entering surface waters. [NPDES Permit §V.A]*

Summary

It cannot yet be determined whether Pacific Energy consistently complies with the current 2010 NPDES permit because the required sample results are not yet available. However, the sampling conducted under the requirements of the 2009 Administrative Order indicates that while drainage can consistently comply with the limits measuring fuel losses, discharge will not consistently comply with the water quality based effluent limits for nutrients and pH. Fuel drips, spills, entrainment, mishandling, and other losses of fuel into the storm water drainage constitute the only identified threat to water quality posed by Pacific Energy. Toward this threat, the source controls, operational procedures, and on-site oil water separators are well designed and implemented to effectively prevent the loss and release of fuels. The trace nutrient levels and slightly low pHs likely are unrelated to fuel contamination.

Requirements

- None.

Recommendations

- Calibrated meters should be used to measure pH and electrical conductivity.

3.1 Representative Sampling

Pacific Energy now conducts self-monitoring under the requirements of the 2010 NPDES permit at the discharge points for the four oil water separators (NPDES-002B/BX, 002C, 002D, 003). These four discharge points, taken together, are representative of all industrial and storm water discharges from the fuel terminal and fueling dock. For two reasons, most of the earlier self-monitoring from the harbor outfalls, conducted under the requirements of the former 2003 NPDES permit, was of questionable use. First, the two outfalls for the fuel terminal (NPDES-001, 002) carry unregulated storm water from the non-process and off-site areas. Second, the main outfall for the terminal (NPDES-002) was rarely self-monitored due to the sampling difficult posed by low storm water flows and high harbor water levels.

3.2 Sample Record

The sample record reviewed for this inspection was limited to the samples collected from the four oil water separators under the requirements of the 2009 EPA Administrative Order.

Table 4.1
2009-2010 NPDES Permit Sampling Record for Pacific Energy

Indicator Parameters	2010					2009						
	5/26	4/14	3/31	2/28	1/31	9/30	9/2	8/14	7/31	7/1	6/24	6/18
O/W Separator	NPDES-002B/BX											
flow (mgd)			1.227	0.479	1.257	3.128	0.257		2.607			
pH (s.u.)			**6.0**	**6.3**	**6.0**	6.5	6.5		**6.0**			
O&G (mg/l)	<5.26	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.5	<5.0		<5.6	<5.5
turbidity (NTU)					0.24	0.46						
O/W Separator	NPDES-002C											
flow (mgd)			0.060	0.981	0.920		0.314		3.179			
pH (s.u.)			6.5	**6.25**	**6.0**	6.5	6.5		**6.0**			
O&G (mg/l)	<5.0	<5.0	10.2	<5.0	<5.0		<5.0	<6.7	<5.0	<5.2	<5.2	<5.3
turbidity (NTU)					**1.05**	**6.01**						
O/W Separator	NPDES-002D											
flow (mgd)												
pH (s.u.)												
O&G (mg/l)	<5.0	<5.0					<5.0	<5.4				
turbidity (NTU)												
O/W Separator	NPDES-003											
flow (mgd)			0.030	0.239	0.224	0.763	0.063		0.010			
pH (s.u.)			**6.0**	**6.0**	**6.0**	**6.0**			**6.0**			
O&G (mg/l)	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.4	<5.0		<5.0	
turbidity (NTU)												

O/W Separator	NPDES-002B/BX			NPDES-002C			NPDES-002D			NPDES-003		
Water Quality Standards	2009			2009			2009			2009		
		6/24	3/31			6/24						6/24
lead (µg/l)		<5	5.65			<5						<5
arsenic (µg/l)		<20				<20						<20
PO_4-P (µg/l)		**190**				<50						<50
phenols (µg/l)		<100				<100						<100
BOD (mg/l)		<2				<2						<2
NO_2/NO_3 (µg/l)		108				218						<50
N_{total} (µg/l)		**2910**				**1060**						**840**
benzene (µg/l)		<2.0	<2.0			<2.0						<2.0
ethylbenz (µg/l)		<2.0	<2.0			<2.0						<2.0
toluene (µg/l)		<2.0	<2.0			<2.0						<2.0
Kjedl-N (µg/l)		2800				840						840
CN_{total} (µg/l)		<0.03				<0.03						<0.03

3.3 Water Pollution Control

Good aspects of water pollution control were again found in effect during this inspection. Foremost, all contact wastewaters discharge through four tube coalescing oil water separators, each designed to remove the petroleum distillates found in fueling station wastewaters. Pacific Energy also is clean and well run, employing many operational and design controls to minimize product loss into the wastewaters, including adequately sized secondary containment, daily level checking, double bottomed product tanks with visual ports, normally closed tank bottom taps, and tank bottom visual observation tanks. Pacific Energy also consistently certifies to following its pollution prevention plan.

Oil and Grease - The discharges through the four oil water separators would be expected to continue to consistently comply with the technology-based effluent limits for oil & grease. As a result, discharges from Pacific Energy also would not be expected to result in visual sheen in the harbor.

Nutrients - Facility drainage cannot consistently meet the water quality standards for total nitrogen or phosphorus as they are currently applied in the permit, end-of-pipe and without adjustment.

Lower pH - The drainage also consistently registers below the lower pH water quality standard possibly because the measurements were not by calibrated meter. More likely, the low pH indicates a lack of contamination. A pH below neutral but above 5.5 s.u. is expected in uncontaminated storm water run-off when there is little or no mineral content and thus littler or no buffering capacity. Distilled water will naturally take on a weak and un-buffered acidic nature from the dissolution of carbon dioxide resulting in a pH of around 5.5-5.8 s.u. Concurrent electrical conductivity measurements could confirm the low mineral content of the drainage.