NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
DRAFT PERMIT FACT SHEET
November 2023

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NPDES Permit No.:	AS0020048

I. STATUS OF PERMIT

The U.S. Army Corps of Engineers and Engineering/Remediation Resources Group ("USACE" and "ERRG" or the "permittee") have applied for a National Pollutant Discharge Elimination System ("NPDES") permit to authorize the discharge of treated construction dewatering effluent from the Former Aua Fuel Farm Temporary Water Treatment System to outer Pago Pago Harbor located on the island of Tutuila, American Samoa. A complete application was submitted on August 7, 2023, and supplemental information was provided on September 22, 2023. The U.S. Environmental Protection Agency ("EPA") Region IX has developed this permit and fact sheet pursuant to Section 402 of the Clean Water Act ("CWA"), which requires point source dischargers to control the amount of pollutants that are discharged to waters of the United States through obtaining a NPDES permit.

This permittee has been classified as a minor discharger.

II. GENERAL DESCRIPTION OF FACILITY

USACE has contracted ERRG to provide labor, equipment, and materials to support management and disposal of petroleum-contaminated dewatering effluent and soil encountered during trenching operations associated with sewer installation work and fuel pipeline removal at the site of the former Aua Fuel Farm in the village of Aua on the island of Tutuila in the Territory of American Samoa. Dewatering effluent will be processed through a temporary water treatment train (the "facility"), which will be located in the village of Aua, prior to discharge to outer Pago Pago Harbor. The facility will be operated by ERRG. Location maps and facility schematics are available in Attachments B and C or the draft permit.

History of Aua Fuel Farm and Related Contamination

The Aua Fuel Farm, constructed in 1943, was historically operated by the U.S. Navy for bulk fuel oil storage and distribution. The site consisted of 12 above-ground storage tanks ("ASTs"), each with a 9,540-barrel capacity. The fuel farm infrastructure also included 12 fuel oil pumps,

13 pump houses, and approximately 7,200 feet of 12-inch diameter above-ground pipeline. Use of the fuel farm was discontinued in 1945, at which point the ASTs had been drained to the level of the output valves (12 inches from the bottom of the tanks). Approximately 205,506 gallons of fuel oil remained in the ASTs. Although there are no records of dismantling of the ASTs, observations during various environmental investigations have concluded that the ASTs were likely crushed, folded, and buried under approximately 3 feet of imported fill material.

From 2010 to 2021, multiple investigations and response actions were conducted at the former Aua Fuel Farm site to assess the nature and extent of petroleum-contaminated groundwater and soil, and to address the contamination. The most recent response action was conducted in 2021 by ERRG, under contract with USACE, and included removal of the remaining buried ASTs to the extent practicable, excavation and thermal treatment of petroleum-contaminated soils, and monitoring of groundwater and surface waters to evaluate the nature and extent of free product and dissolved-phase contamination in the substrate. Pollutants determined to have contaminated groundwater and soil at the site include total petroleum hydrocarbons ("TPH") as diesel-range organics, TPH as residual range organics, and polycyclic aromatic hydrocarbons ("PAH").

Description of Treatment Facility and Operations

Approximately 397.7 linear feet of sewer line remain to be installed. This section of the municipal sewer system is located in an area of the former Aua Fuel Farm with petroleum-contaminated groundwater and soil, which will need to be properly handled and disposed of during the installation. The sewer installation trenches will be approximately 6 feet wide by 12 feet deep. Groundwater is anticipated to occur at approximately 3 feet below ground surface. Excavation dewatering will be required to complete the installation of the sewer pipe and associated backfill materials, as well as removal of former fuel pipelines. Anticipated dewatering rates are 1,500 gallons-per-minute ("GPM") at initial start-up, and 1,100 GPM for sustained operations.

Due to capacity limits, the existing wastewater treatment infrastructure in Aua will be unable to process wastewater from the dewatering projects. Therefore, ERRG will construct a temporary water treatment system near the sewer excavation site to process dewatering effluent from the sewer line and fuel pipeline excavation trenches. Total discharge from the projects is expected to be just over 22 million gallons. The facility process train is anticipated to include an intake tank (20,000-gallon capacity frac tank) followed by two oil-water separators in parallel (fabricated in two additional frac tanks), a treatment skid containing control systems, pumps (six 500-gpm Grundfos CR95 Series, or similar), media filters (lead vessels will contain organo clay for hydrocarbon removal, following vessels will contain virgin coconut shell carbon [granular activated carbon] for polishing), and a bag filter skid (for particulate/solids removal). An additional holding tank (20,000-gallon capacity frac tank) will follow the treatment skid, and will be equipped with a petroleum sensor and alarm, shut-off valve, and sampling port. The final holding tank will be used to reduce water turbulence and allow for visual observation of sheens and collection of water samples. Treated effluent is proposed to be discharged to Pago Pago Harbor at Outfall 001, but 5 alternative discharge locations have been included in Attachment B-3 of the proposed permit. The maximum treatment capacity of the facility will be 1,500 GPM. The facility activities fall under the Standard International Classification ("SIC") codes 1629 and 8711, and North American Industry Classification System ("NAICS") codes 541620 and 562910.

Petroleum-contaminated soil removed from the sewer and excavated fuel pipeline trenches is planned to be transported to a thermal desorption area and treatment plant that will likely be established at Onesosopo Park, approximately 0.75 miles from the facility. Excavated soil will be treated by thermal desorption and sampled prior to reuse as excavation backfill material or municipal purposes. The maximum amount of contaminated soil that will be excavated, treated, and disposed of for the sewer installation portion of the project is 1,060.53 bank cubic yards, or 1,590.79 loose cubic yards. Up to an additional 5,000 cubic yards of contaminated soil may be excavated, treated, and disposed of as part of the fuel pipeline removal activities.

III. DESCRIPTION OF RECEIVING WATER

The facility will discharge to Pago Pago Harbor, the largest natural harbor in American Samoa and a major location for industrial activity (canning, ship repair, port facilities, fuel terminal), wildlife (sea birds, sea turtles, coral reef flats), and human water contact (recreation including swimming and boating, scuba diving, fishing, and tourism).

Pago Pago Harbor is a near-shore territorial water of American Samoa and is classified as an embayment that consists of an inner, middle, and outer harbor with fringing reefs throughout the middle and outer harbor areas. The harbor is approximately three miles long with the entrance facing to the south and depths ranging from 60 to over 200 feet. Pago Pago Harbor is connected to the South Pacific Ocean and fed by numerous small streams. Due to the small size and relatively limited development of those watersheds, the majority of point-source pollutant discharges to the harbor are direct discharges from shoreline facilities, which include all NPDES-permitted industrial facilities in American Samoa. In addition to the point source dischargers, stormwater runoff from urban area, agriculture and livestock facilities, runoff or spills from animal feeding operations, and legacy sediment contamination are major non-point source pollutant discharges to the harbor (2014 American Samoa Bacteria TMDL, section 5.1.2).

IV. DESCRIPTION OF DISCHARGE

Discharges to Pago Pago Harbor via Outfall 001 will consist of treated dewatering effluent from construction sewer line and pipeline excavation trenches. As described above, the dewatering effluent is petroleum-contaminated, and will be treated prior to discharge. Total discharge for the sewer line project is estimated to be approximately 1 million gallons-per-day ("MGD") with a total of 22 million gallons discharged over a period of 2 months. Total discharge for the pipeline excavation project is estimated to be approximately 80,000 gallons over a period of 2-3 months. The maximum discharge rate from the facility throughout both projects will be 1,500 GPM.

The permittee's NPDES application included data from 14 monitoring wells spread throughout the area of the Former Aua Fuel Farm. The monitoring wells sampled untreated groundwater within the Former Aua Fuel Farm Area, as the treatment system had not been installed at the time of drafting this permit. Figure B-2 of Attachment B to the draft permit shows the location of the monitoring wells, labeled as MW-01 through MW-15. Data from MW-05 was not available. Sampling was conducted in September 2019, May 2021, June 2021, and

September 2021. Table 1 shows data highest daily maximum result reported for the 14 monitoring wells in the permittee's NPDES application.

Table 1. Former Aua Fuel Farm Monitoring Well Sampling Data from September 2019 to September 2021

Parameter	Units	Monitoring Well Data	
		Highest Daily Maximum	Number of Samples
Benzo(a)anthracene	µg/L	ND[1] (<0.045)	49
Benzo(a)pyrene	µg/L	ND[1] (<0.045)	49
Benzo(b)fluoranthene	µg/L	ND[1] (<0.045)	49
Benzo(g,h,i)perylene	µg/L	ND[1] (<0.045)	49
Benzo(k)fluoranthene	µg/L	ND[1] (<0.045)	49
Chrysene	µg/L	ND[1] (<0.091)	49
Dibenzo(a,h)anthracene	µg/L	ND[1] (<0.045)	49
Fluoranthene	µg/L	ND[1] (<0.45)	49
Fluorene	µg/L	ND[1] (<0.45)	49
Indeno(1,2,3-cd)pyrene	µg/L	ND[1] (<0.045)	49
1-Methylnaphthalene	µg/L	ND[1] (<0.45)	49
2-Methylnaphthalene	µg/L	ND[1] (<0.45)	49
Naphthalene	µg/L	2.3	49
Phenanthrene	µg/L	ND[1] (<0.45)	49
Pyrene	µg/L	ND[1] (<0.45)	49
TPH-DRO (C10-C28)	µg/L	590	49
TPH-RRO (>C28-C40)	µg/L	145	49
Lead	µg/L	6.1	49

[1] Not detected. Number included in parentheses is the reported detection limit.

VI. DETERMINATION OF NUMERICAL EFFLUENT LIMITATIONS

EPA has developed effluent limitations and monitoring requirements in the permit based on an evaluation of the technology used to treat the pollutant (i.e., "technology-based effluent limits") and the water quality standards applicable to the receiving water (i.e., "water quality-based effluent limits"). EPA has established the most stringent of applicable technology-based or water quality-based standards in the draft permit, as described below.

A. Applicable Technology-Based Effluent Limitations

Technology-based effluent limitations represent the minimum level of control that must be imposed under sections 301(b) and 402 of the CWA. Permits issued to facilities other than publicly owned treatment works ("non-POTWs") must require compliance with a level of treatment performance equivalent to Best Practicable Control Technology Currently Available ("BPT"), Best Available Technology Economically Achievable ("BAT"), or Best Conventional Pollutant Control Technology ("BCT") for existing sources, and consistent with New Source Performance Standards ("NSPS") for new sources. Where federal effluent limitations guidelines ("ELGs") have been developed for a category of dischargers, the technology-based effluent

limits in a permit must be based on the application of these guidelines. Technology-based treatment requirements may be imposed on a case-by-case basis under section 402(a)(1) of the CWA, to the extent that EPA promulgated effluent limitations are inapplicable (i.e., the regulation allows the permit writer to consider the appropriate technology for the category or class of point sources and any unique factors relating to the applicant) (40 CFR § 125.3(c)(2)).

EPA has established national standards based on the performance of treatment and control technologies for wastewater discharges to surface waters for certain industrial categories. ELGs represent the greatest pollutant reductions that are economically achievable for an industry, and are based on BPT, BCT, and BAT (sections 304(b)(1), 304(b)(4), and 304(b)(2) of the CWA, respectively). EPA has not promulgated ELGs for the discharge of construction dewatering effluent. As stated above, if ELGs are not available, a permit must include requirements at least as stringent as BPT/BAT/BCT developed on a case-by-case using best professional judgment ("BPJ") in accordance with the criteria outlined at 40 CFR § 125.3(d). Therefore, EPA has established technology-based effluent limits for total suspended solids ("TSS"), oil and grease, naphthalene, and Group II polycyclic aromatic hydrocarbons ("PAHs") in this permit utilizing BPJ to meet the above stated criteria for BAT/BCT described in CWA section 304(b). The rationale for establishing numeric technology-based effluent limitations for these parameters is discussed in section VI.C of this fact sheet.

B. Water Quality-Based Effluent Limitations

Water quality-based effluent limitations are required in NPDES permits when the permitting authority determines that a discharge causes, has the reasonable potential to cause, or contributes to an excursion above any water quality standard (40 CFR § 122.44(d)(1)).

When determining whether an effluent discharge causes, has the reasonable potential to cause, or contributes to an excursion above narrative or numeric criteria, the permitting authority shall use procedures which account for existing controls on point and non-point sources of pollution, the variability of the pollutant or pollutant parameter in the effluent, the sensitivity of the species to toxicity testing (when evaluating whole effluent toxicity) and where appropriate, the dilution of the effluent in the receiving water (40 CFR § 122.44(d)(1)(ii)).

EPA evaluated the reasonable potential to discharge toxic pollutants according to guidance provided in the *Technical Support Document for Water Quality-Based Toxics Control* (TSD) (Office of Water, U.S. EPA, March 1991) and the *U.S. EPA NPDES Permit Writers' Manual* (Office of Water, U.S. EPA, September 2010). These factors include:

1. Applicable standards, designated uses and impairments of receiving water;
2. Dilution in the receiving water;
3. Type of industry; and
4. Existing data on toxic pollutants.

1. Applicable Standards, Designated Uses and Impairments of Receiving Water

The American Samoa Water Quality Standards ("ASWQS"), 2018 Revision, Administrative Rule No. 001-2019 (§§ 24.0201 et seq.), establish water quality criteria for the following protected uses in Pago Pago Harbor:

(A) Recreational and subsistence fishing except for exclusions as specified under federal regulations such as no take zones;
(B) Boat-launching ramps and designated mooring areas;
(C) Subsistence food gathering; e.g. shellfish harvesting except for exclusions as specified under federal regulations such as no take zones;
(D) Aesthetic enjoyment;
(E) Whole and limited body-contact recreation, e.g. swimming, snorkeling, and scuba diving;
(F) Support and propagation of marine life;
(G) Industrial water supply;
(H) Mari-culture development except for exclusions as specified under federal regulations such as no take zones;
(I) Normal harbor activities; e.g. ship movements, docking, loading and unloading, marine railways and floating drydocks; and
(J) Scientific investigations.

Pago Pago Harbor is listed as impaired for several pollutants according to the CWA Section 303(d) List of Water Quality Limited Segments. The existing impairments for which a TMDL has been developed include the following:

- Ocean Shorelines in the Pago Pago watershed are listed as impaired for enterococci (American Samoa Bacteria TMDL for Beaches and Streams, approved August 28, 2015). The enterococci limits specified in the bacteria TMDL are identical to those specified in the ASWQS. Therefore, compliance with ASWQS for enterococci ensures compliance with the requirements of that TMDL. The TMDL does not specify a wasteload allocations ("WLA") for the facility, and the nature of the discharge is not expected to contribute bacteria to the receiving water. Therefore, no bacteria limits are set in the permit.

- The inner harbor is listed for lead (Pago Pago Harbor Lead TMDL, approved June 23, 2001), with a particular emphasis on contaminated sediments in the inner harbor. The lead TMDL does not provide a WLA for the facility, and since discharge from the facility is to the outer harbor watershed, not the inner harbor watershed, no provisions from this TMDL apply to the discharge.

- The inner harbor is also listed for mercury, PCBs, and arsenic (Pago Pago Inner Harbor Mercury, PCBs, and Arsenic TMDL, approved Feb. 23, 2007). The mercury, PCBs, and arsenic TMDL does not provide a WLA for the facility as its analysis is limited to the inner harbor watershed. As the facility discharge is to the outer harbor watershed, no provisions from this TMDL apply to the discharge.

2. Dilution in the Receiving Water

Section 24.0207 of the ASWQS require that water quality standards be achieved without mixing zones unless the permittee applies and is approved for a mixing zone. The permittee does not have an approved mixing zone, nor has the permittee applied for a mixing zone, so dilution is not considered in the calculation of water quality-based effluent limits for the proposed permit.

3. Type of Industry

EPA previously evaluated the characteristics of contaminated or formerly contaminated sites and the types of remediation and/or dewatering activities conducted at such sites for development of EPA's Region 1 Dewatering and Remediation General Permit ("R1 DRGP")[1]. EPA then evaluated the parameters present or likely present in remediation and/or dewatering discharges. Information used for the evaluation included 1) existing information regarding dewatering and remediation sites previously covered under EPA's R1 DRGP; 2) available information regarding the toxicology, physical characteristics, chemical characteristics, and fate and transport of potential parameters; 3) available toxicity data pertaining to potential parameters; 4) available water quality standards and supporting documentation applicable to potential parameters; and/or 5) available pollution control technologies capable of effectively treating discharges containing these potential parameters. Pollutants likely to be in dewatering and remediation effluent from contaminated sites included inorganics, non-halogenated volatile organic compounds ("VOCs"), halogenated VOCs, non-halogenated semi-VOCs, and fuels parameters.

4. Existing Data on Toxic Pollutants – Conducting a Reasonable Potential Analysis

Data submitted with the permittee's application indicated the potential presence of 21 parameters, all of which were identified as "indicator parameters" associated with dewatering activities at petroleum-contaminated sites in EPA's R1 DGRP. These parameters include acenaphthene, acenaphthylene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, fluoranthene, fluorene, indeno(1,2,3-cd)pyrene, 1-methylnaphthalene, 2-methylnaphthalene, naphthalene, phenanthrene, pyrene, TPH-DRO (C10-C28) ("TPH diesel"), TPH-RRO (>C28-C40) ("TPH residual"), and lead.

Section 122.44(d)(1) of 40 CFR requires that permits include limitations on all pollutants or parameters which "are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any state water quality standard." Due to the likely presence of these pollutants in the facility effluent, and irregularities with the reported data, EPA did not follow the standard statistical methodology described in EPA's TSD for analysis using site-specific effluent data. Instead, EPA used an alternative reasonable potential analysis methodology described in section 3.2 of the TSD that uses a variety of factors and information in accordance with 40 CFR §122.44(d)(1)(ii), including the type of effluent (treated, petroleum-contaminated groundwater), the lack of available dilution, the maximum discharge flow rate (1,500 GPM), the quality of the receiving water, and the concentration of other industrial and municipal discharges to the receiving water. Due to the factors considered in the analysis, and to provide for a conservative measure of water quality protection, EPA determined that the discharge has the reasonable potential to exceed the water quality criteria for each

[1] NPDES General Permit Nos. MAG910000, NHG910000, CTG910000, RIG910000, and VTG910000: General Permit for Dewatering and Remediation Discharges (EPA, 2022). Available at https://www.epa.gov/npdes-permits/dewatering-and-remediation-general-permit-drgp

indicator parameter identified in the permittee's application. Effluent limitations for these parameters are established in the draft permit, and discussed in section VI.C of this fact sheet,

C. Rationale for Numeric Effluent Limits and Monitoring

EPA evaluated the typical pollutants expected to be present in the effluent and selected the most stringent of applicable technology-based standards or water quality-based effluent limitations. Where effluent concentrations of toxic parameters are unknown or are not reasonably expected to be discharged in concentrations that have the reasonable potential to cause or contribute to water quality violations, EPA may establish monitoring requirements in the permit. Where monitoring is required, data will be re-evaluated and the permit may be re-opened to incorporate effluent limitations as necessary.

Flow

The treatment technology for the facility includes two oil-water separators. This device separates the lower-density oils from water; resulting in an oil phase above the oil-water interface and a heavier particulate phase on the bottom of the separator. To ensure proper operation of the installed oil-water separators, such that the oil and/or particulate phases are not entrained to the waterway, it is important that the flow through the separator be maintained at or below the maximum design flow rate of 1,500 GPM. Therefore, the draft permit contains a flow limit and monitoring requirement for continuous field measurement during discharge.

Visible Sheen and Foam Monitoring

The draft permit establishes daily monitoring requirements for visible sheen and foam due to the nature of the discharge as treated petroleum-contaminated dewatering effluent. Visual monitoring will ensure that the discharge will be suspended and the treatment system inspected if petroleum byproducts are observed in the receiving water.

Temperature

The draft permit establishes monitoring requirements for temperature to determine compliance with the narrative requirements in Part I.A.5.e of the draft permit. Temperature shall be taken as a field measurement at the time of sampling during each discharge.

Total Suspended Solids ("TSS")

The draft permit establishes a maximum daily technology-based effluent limit of 100 mg/L for TSS. TSS is a conventional pollutant that may include inorganic (e.g., silt, sand, clay, and insoluble hydrated metal oxides) and organic matter (e.g., flocculated colloids and compounds that contribute to color). TSS can cause interference with proper operation and maintenance of the pollution control technologies used by operators for dewatering and remediation discharges similar to those from the facility. Suspended solids also provide a medium for the transport of other pollutants (e.g., hydrocarbons, metals) via adsorption. The control of TSS in discharges from the facility will help minimize the discharge of pollutants adsorbed to particulate matter. In addition, control of TSS will ensure proper operation of treatment units employed in the facility treatment train (e.g., by preventing clogging of carbon adsorption treatment systems). The establishment of an effluent limit for TSS is based on BPJ since 1) there are no applicable ELGs and performance standards for TSS, and 2) TSS is a good indicator of effluent quality.

Specifically, the release of heavy metals and PAHs can be reduced by regulating the amount of suspended solids discharged.

Section 402(a)(1) of the CWA provides for the establishment of BPJ-based effluent limits when ELGs and performance standards are not available for a pollutant of concern. EPA selected a maximum daily TSS limitation of 100 mg/L based on the application of EPA-promulgated BPT/BCT limitations contained in numerous industrial point source categories and the information in the supporting documentation for those ELGs. The limit is also consistent with similar facilities that treat oily wastewater. EPA also considered TSS limitations included in NPDES permits for similar pipeline and/or tank dewatering discharges covered under individual permits. Treatment technologies for TSS are well understood, and widely used at remediation and/or dewatering sites. Properly designed treatment systems, such as those utilizing filtration, can readily remove TSS to concentrations at or below the proposed technology-based effluent limit. The draft permit also includes monitoring requirements for TSS to confirm compliance with the effluent limitation.

Turbidity

ASWQS specify turbidity standards for Pago Pago Harbor (ASWQS § 24.0206(m)). The standards require that turbidity not exceed 1.5 nephelometric units ("NTUs") more than 2 percent of the time, or 1.0 NTU more than 10 percent of the time. The standards also establish a median for turbidity of 0.75 NTU. Facility and site activities will involve the generation and treatment of fine solids, which may impact the efficacy of the treatment system. Therefore, EPA has determined that the facility has reasonable potential to exceed the water quality criteria, and established effluent limits in the draft permit of a monthly median of 0.75 NTU, and a maximum daily of 1.5 NTU. The draft permit also includes monitoring requirements for turbidity to confirm compliance with the effluent limitations.

Oil and Grease

The draft permit establishes a maximum daily technology-based effluent limit of 15 mg/L for oil and grease. Oil and grease is not a single chemical constituent, but includes a large range of organic compounds, which can be both petroleum-related (e.g., hydrocarbons) and non-petroleum (e.g., vegetable and animal oils and greases, fats, and waxes). These compounds have varying physical, chemical, and toxicological properties. Generally, oils and greases in surface waters either float on the surface, are solubilized or emulsified in the water column, adsorb onto floating or suspended solids and debris, or settle on the bottom or banks. Oil and grease, or certain compounds within an oil and grease mixture, can be lethal to fish, benthic organisms and water-dwelling wildlife. The establishment of an effluent limit for oil and grease is based on BPJ since 1) there are no applicable ELGs and performance standards for oil and grease, and 2) the discharge consists of treated petroleum-contaminated dewatering effluent.

Section 402(a)(1) of the CWA provides for the establishment of BPJ-based effluent limits when ELGs and performance standards are not available for a pollutant of concern. EPA has historically used 15 mg/l to approximate the concentration at which visible oil sheen is likely to occur, and believes that this standard is a reasonable target value. EPA has previously imposed maximum daily oil and grease limits of 15 mg/l as a technology-based standard in permits at facilities (such as oil terminals and drydock shipyards) that have a reasonable potential for oil and grease discharge, and this limit is consistent with other similar facilities that treat oily

wastewater. The draft permit also includes monitoring requirements for oil and grease to confirm compliance with the effluent limitation.

pH

ASWQS specify a pH standard for Pago Pago Harbor based on both a fixed range (minimum of 6.5 standard units ("SU") and maximum of 8.6 SU) and a peak allowable deviation from natural conditions of 0.2 SU, where natural is defined as "free of substances or conditions, which are attributable to the activities of man". (ASWQS §§ 24.0206(m) and 24.0201). Since pH is a significant parameter due to its direct effects on aquatic organisms, the draft permit establishes a fixed range pH limitation of 6.5 SU as a minimum and 8.6 SU as a maximum. pH shall be taken as a field measurement at the time of sampling during each discharge.

Metals

The metals present at contaminated or formerly contaminated sites vary widely depending on the types of contamination at a site, the activities occurring at a site, and the surficial and bedrock geology present. Petroleum-related sources can contain de minimis quantities of antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, and zinc, depending upon the type of fuel. Many metals are directly toxic to humans, including lead, mercury, arsenic and cadmium. Some metals, while required by the human body in small amounts, including copper, zinc, and chromium, can be toxic at high doses. Metals such as copper, lead, and zinc can be toxic to aquatic life, and can bioaccumulate in living organisms, which can lead to biomagnification within a food chain. Chemical interactions with groundwater, surface water or site contaminants, including naturally occurring deposits in surrounding surficial or bedrock geology, can mobilize metals such as arsenic, especially under reducing conditions. Since the facility will be treating dewatering effluent from a petroleum-contaminated site, and to confirm that there is no exceedance of the applicable water quality criteria, the draft permit establishes monitoring requirements for metals associated with this type of contamination. Metals that are required to be monitored are antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, and zinc.

Lead

Lead is commonly found in fuel oil and oily wastewaters, including those associated with petroleum contamination. Monitoring well data for the former Aua Fuel Farm indicated that concentrations of lead are regularly detectable in groundwater at the site. EPA has determined that the facility has the reasonable potential to exceed the water quality criteria for lead as discussed in section VI.B.4 of this fact sheet. To establish the appropriate effluent limits, EPA compared the technology-based effluent limit for lead established in EPA's R1 DRGP, which is applicable to similar discharges, to the water-quality based effluent limits calculated using methods described in section 5.4 of EPA's TSD. EPA's R1 DRGP established a technology-based effluent limit for lead of 160 ug/L as a maximum daily limit, based on BCT/BAT. Water quality-based effluent limits were calculated based on the most stringent applicable water quality criteria for lead in EPA's National Recommended Water Quality Criteria. The most stringent criterion for total recoverable lead applicable to the receiving water was the saltwater chronic criterion of 8.52 ug/L for the protection of aquatic life. The calculated water-quality based effluent limits for lead are 7.0 ug/L as an average monthly and 14 ug/L as a maximum daily. Since the calculated water quality-based effluent limits were more stringent than the technology-based effluent limits, they were established as the applicable effluent limits in the draft permit. The draft permit also requires regular monitoring for lead to confirm compliance with the effluent limitations.

Group I Polycyclic Aromatic Hydrocarbons ("PAH")

PAHs are a group of organic compounds that form through the incomplete combustion of hydrocarbons and are present in petroleum derivatives and residuals. There are 16 PAH compounds identified as priority pollutants. Group I PAHs have higher molecular weights (i.e., contain four to seven aromatic rings), and are therefore more resistant to oxidation, reduction, and vaporization, are less water soluble, and are generally persistent (i.e., less degradable). Group I PAHs are generally less toxic to aquatic organisms but are carcinogenic. Group I PAHs include benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene.

As discussed in section VI.B.4 of this fact sheet, EPA has determined that the facility has the reasonable potential to exceed the water quality criteria for the seven Group I PAH parameters listed above. To determine the effluent limits for the seven Group I PAH parameters, EPA compared the technology-based effluent limit for Total Group I PAHs established in EPA's R1 DRGP, which is applicable to similar dewatering discharges, to the water-quality based effluent limits calculated for each individual Group I PAH parameter using methods described in section 5.4 of EPA's TSD. EPA's R1 DRGP established a technology-based effluent limit for Total Group I PAHs of 1.0 ug/L as a daily maximum. The technology-based DRGP limit was calculated as the sum of the seven individual MLs achievable through analysis by multiple 40 CFR § 136 test methods using selected ion monitoring (e.g., Method 625) rounded up to the next whole number. Since the ML for each parameter was 0.1 ug/L, the sum of 0.7 ug/L was rounded up to 1.0 ug/L for the Total Group I PAHs technology-based effluent limit. Water quality-based effluent limits were calculated based on the most stringent applicable water quality criteria for each Group I PAH parameter, the human health criterion, which is equal to the calculated average monthly effluent limits. A comparison of the group technology-based effluent limit and the individual water-quality based effluent limits is presented in Table 2 below.

Table 2. Technology-Based and Water Quality-Based Effluent Limits for Group I PAHs

Parameter	Units	Technology-Based Effluent Limit (Maximum Daily)	Water Quality-Based Effluent Limit (Maximum Daily)	Water Quality-Based Effluent Limit (Average Monthly)
Benzo(a)anthracene	µg/L	----	0.0026	0.0013
Benzo(a)pyrene	µg/L	----	0.00026	0.00013
Benzo(b)fluoranthene	µg/L	----	0.0026	0.0013
Benzo(k)fluoranthene	µg/L	----	0.026	0.013
Chrysene	µg/L	----	0.26	0.13
Dibenzo(a,h)anthracene	µg/L	----	0.00026	0.00013
Indeno(1,2,3-cd)pyrene	µg/L	----	0.0026	0.0013
Total Group I PAHs	µg/L	1.0	No Criteria	No Criteria

Since both the average monthly and maximum daily water quality-based effluent limits for each individual Group I PAH parameter was more stringent than the technology-based effluent limit for the Total Group I PAHs, the water quality-based effluent limits were established in the draft permit as the applicable effluent limits for each individual Group I PAH parameter. The draft permit also establishes monitoring requirements for these parameters to confirm compliance with the effluent limitations.

Group II Polycyclic Aromatic Hydrocarbons ("PAH")

Group II PAHs have lower molecular weights (i.e., contain two or three aromatic rings). As a result, Group II PAHs are more water-soluble and transform more quickly than higher molecular weight PAHs, mainly through volatilization and biodegradation. Group II PAHs are not generally considered carcinogenic. However, Group II PAHs can enhance or inhibit the response of the carcinogenic Group I PAHs and have significant acute toxicity to aquatic organisms. Group II PAHs include acenaphthene, acenaphthylene, anthracene, benzo(g,h,i)perylene, fluoranthene, fluorene, 1-methylnaphthalene, 2-methylnaphthalene, naphthalene, phenanthrene, and pyrene.

As discussed in section VI.B.4 of this fact sheet, EPA has determined that the facility has the reasonable potential to exceed the water quality criteria for the 11 Group II PAH parameters listed above. To determine the effluent limits for these parameters, EPA compared the technology-based effluent limit for Total Group II PAHs established in EPA's R1 DRGP, which is applicable to similar dewatering discharges, to the water-quality based effluent limits calculated for each individual Group II PAH parameter using methods described in section 5.4 of EPA's TSD. EPA's R1 DRGP establishes a technology-based effluent limit for Total Group II PAHs of 100 ug/L as a daily maximum. This value represents the sum of acenaphthene, acenaphthylene, anthracene, benzo(g,h,i)perylene, fluoranthene, fluorene, phenanthrene, and pyrene. The R1 DRGP also includes a technology-based effluent limit for the Group II PAH naphthalene of 20 ug/L as a daily maximum. Water quality-based effluent limits were calculated based on the most stringent applicable water quality criteria for each Group II PAH parameter. A comparison of the technology-based effluent limits and the individual water-quality based effluent limits is presented in Table 3 below.

Table 3. Technology-Based and Water Quality-Based Effluent Limits for Group II PAHs:

Parameter	Units	Technology-Based Effluent Limit (Maximum Daily)	Water Quality-Based Effluent Limit (Maximum Daily)	Water Quality-Based Effluent Limit (Average Monthly)
Acenaphthene	µg/L	----	181	90
Acenaphthylene	µg/L	----	No Criteria	No Criteria
Anthracene	µg/L	----	804	400
Benzo(g,h,i)perylene	µg/L	----	No Criteria	No Criteria
Fluoranthene	µg/L	----	40	20
Fluorene	µg/L	----	141	70
1-Methylnaphthalene	µg/L	----	No Criteria	No Criteria
2-Methylnaphthalene	µg/L	----	No Criteria	No Criteria
Naphthalene	µg/L	20	2,350	2,350
Phenanthrene	µg/L	----	No Criteria	No Criteria
Pyrene	µg/L	----	60	30
Total Group II PAHs	µg/L	100	No Criteria	No Criteria

Since no criteria have been established for acenaphthylene, benzo(g,h,i)perylene, 1-methylnaphthalene, 2-methylnaphthalene, or phenanthrene, water quality-based effluent limits could not be calculated for these parameters. Anthracene was the only Group II PAH parameter with water quality-based effluent limits (400 ug/L as a daily maximum and 804 ug/L as a monthly average) that exceeded the technology-based effluent limit for Total Group II PAHs (100 ug/L as a daily maximum). Although the daily maximum water quality-based effluent limits for acenaphthene and fluorene (181 ug/L and 141 ug/L, respectively) exceeded the technology based effluent limit for Total Group II PAHs, the monthly average water quality-based effluent limits for acenaphthene and fluoranthene (90 ug/L and 70 ug/L, respectively) are more stringent than the technology-based effluent limits for Total Group II PAHs. Therefore, to ensure protection of the water quality of the receiving water, the draft permit establishes the effluent limits listed in Table 4 below for Group II PAHs. The draft permit also establishes monitoring requirements for these parameters to confirm compliance with the effluent limitations.

Table 4. Final Effluent Limits for Group II PAHs:

Parameter	Units	Maximum Daily	Average Monthly
Acenaphthene	µg/L	----	90
Fluoranthene	µg/L	40	20
Fluorene	µg/L	----	70
Naphthalene	µg/L	20	----
Pyrene	µg/L	60	30
Total Group II PAHs(1)	µg/L	100	----

(1) Total Group II PAHs shall mean the sum of acenaphthene, acenaphthylene, anthracene, benzo(g,h,i)perylene, fluoranthene, fluorene, phenanthrene, and pyrene.

Total Petroleum Hydrocarbons ("TPH")

TPH generally refers to gasoline range, diesel range, and/or oil range hydrocarbon compounds. Measurement of all individual hydrocarbon compounds in a petroleum product released to the environment is generally not practical, cost-effective, or necessary to attain and maintain water quality standards. As discussed in section VI.B.4 of this fact sheet, EPA has determined that the facility has the reasonable potential to exceed the water quality criteria for TPH-Diesel and TPH-Residual. To determine the effluent limits for TPH-Diesel and TPH-Residual, EPA compared the technology-based effluent limit for these parameters established in EPA's R1 DRGP, which is applicable to similar dewatering discharges, to the water-quality based effluent limits calculated using methods described in section 5.4 of EPA's TSD. EPA's R1 DRGP establishes a technology-based effluent limit for combined TPH of 5.0 mg/L as a maximum daily limit. Water quality-based effluent limits were calculated based on the Tropical Pacific Environmental Screening Levels ("TPESL") calculator groundwater screening level of 640 ug/L for conditions of unrestricted land use and non-drinking water source. Since the TPESL for each parameter is more stringent than the combined TPH technology-based effluent limit, the draft permit establishes the TPESL of 640 ug/L as a maximum daily effluent limit for TPH-Diesel and TPH-Residual. The draft permit also establishes monitoring requirements for these parameters to confirm compliance with the effluent limitations.

Benzene, Ethylbenzene, Toluene, and Xylene

Refined petroleum products contain numerous types of hydrocarbons. Benzene, toluene, ethylbenzene, and xylene are commonly detected in various concentrations at various petroleum-related facilities, such as bulk fuel storage facilities and shipyards. Environmental investigations have shown the site of the former Aua Fuel Farm to contain petroleum-contaminated groundwater and soil. The facility will also treat petroleum-contaminated dewatering effluent. EPA has determined the facility has the reasonable potential to exceed the water quality standards applicable to benzene, ethylbenzene, toluene, and xylene based on the nature of the discharge as treated petroleum-contaminated dewatering effluent, and the lack of available dilution.

In EPA's update of human health ambient water quality for benzene (2015), EPA recommends using the lower criteria based on the carcinogenic effects of benzene (EPA 820-R-15-009). Therefore, using methods in EPA's TSD, the effluent limit for benzene is established as a monthly average of 16 ug/l, and a daily maximum of 32 ug/L. The water quality criteria for ethylbenzene, toluene, and xylene, based on human health consumption of organisms, are 130 ug/L, 520 ug/L, and 10,000 ug/L, respectively. Therefore, the draft permit establishes effluent limits for ethylbenzene of 130 ug/L as a monthly average and 261 ug/L as a daily maximum;

effluent limits for toluene of 520 ug/L as a monthly average and 1,045 ug/L as a daily maximum; and effluent limits for xylene of 10,000 ug/L as a monthly average and 20,100 ug/L as a daily maximum. The draft permit establishes monitoring requirements for these parameters to confirm compliance with the effluent limitations.

D. Anti-Backsliding

Section 402(o) and 303(d)(4) of the CWA and 40 CFR § 122.44(l)(1) prohibits the renewal or reissuance of an NPDES permit that contains effluent limits and permit conditions less stringent than those established in the previous permit, except as provided in the statute and regulation.

Since this is a new permit issuance, this permit does not establish any effluent limits less stringent than those in the previous permit and does not allow backsliding.

E. Antidegradation Policy

EPA's antidegradation policy under CWA § 303(d)(4) and 40 CFR § 131.12 and Section 24.0202 ASWQS require that existing water uses and the level of water quality necessary to protect the existing uses be maintained. As described in this fact sheet, the permit establishes effluent limits and monitoring requirements to ensure that all applicable water quality standards are met. The permit does not include a mixing zone, therefore these limits will apply at the end of pipe without consideration of dilution in the receiving water.

The facility is not expected to result in significant degradation of the receiving water. Although inner Pago Pago Harbor is impaired for arsenic, lead, mercury, and PCBs, the discharge will be to outer Pago Pago Harbor. The facility effluent is expected to contain low levels of toxic pollutants based on data from monitoring wells at the site of the former Aua Fuel farm, and the discharge will be temporary.

Therefore, due to the low volume of discharge, low levels of toxic pollutants present in the effluent, level of treatment being obtained, technology-based effluent limitations, and water quality-based effluent limitations, the discharge is not expected to adversely affect receiving water bodies or result in any degradation of water quality.

VII. NARRATIVE WATER QUALITY-BASED EFFLUENT LIMITS

Section 24.0206 of the ASWQS contains narrative water quality standards applicable to the receiving water. Therefore, the permit incorporates applicable narrative water quality standards in Part I, section A.5.

VIII. MONITORING AND REPORTING REQUIREMENTS

The permit requires the permittee to conduct monitoring for all pollutants or parameters where effluent limits have been established, at the minimum frequency specified. Additionally, where effluent concentrations of toxic parameters are unknown or where data are insufficient to

determine reasonable potential, monitoring may be required for pollutants or parameters where effluent limits have not been established.

A. Effluent Monitoring and Reporting

The permittee shall conduct effluent monitoring to evaluate compliance with the draft permit conditions. The permittee shall perform all monitoring, sampling, and analyses in accordance with the methods described in the most recent edition of 40 CFR § 136, unless otherwise specified in the draft permit. All monitoring data meeting these requirements shall be reported on monthly DMRs and submitted quarterly as specified in the draft permit. All DMRs are to be submitted electronically to EPA using NetDMR. In accordance with the NPDES Electronic Reporting Rule, these program reports must be submitted electronically by the permittee to the Director or initial recipient, as defined in 40 CFR § 127.2(b), in compliance with this section and 40 CFR § 3 (including, in all cases, subpart D to part 3), 40 CFR § 122.22, and 40 CFR § 127.

B. Receiving Water Visual Monitoring

Receiving water visual monitoring is necessary to assess compliance with narrative ASWQS for Pago Pago Harbor established in Part I.A of the draft permit. The draft permit requires the permittee to keep a record of all visual monitoring, including any observations of sheen, foam, discoloration, or floating debris. Receiving water visual monitoring shall be conducted daily while there is discharge from the facility and shall be submitted as an attachment to the facility's DMRs.

IX. SPECIAL CONDITIONS

A. Development and Implementation of Best Management Practices and Pollution Prevention Plan

Pursuant to 40 CFR § 122.44(k)(4), EPA may impose Best Management Practices (BMPs) which are "reasonably necessary…to carry out the purposes of the Act." The pollution prevention requirements or BMPs in the draft permit operate as technology-based limitations on effluent discharges that reflect the application of BAT and BCT. Therefore, the draft permit requires that the permittee develop and implement a Pollution Prevention Plan with appropriate pollution prevention measures or BMPs designed to prevent pollutants from entering Pago Pago Harbor and other surface waters while performing normal processing operations at the facility.

The Pollution Prevention Plan requirements in the draft permit are based on EPA's NPDES Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity, effective June 4, 2015, and on the circumstances of the facility. This permit authorizes discharge of treated groundwater, which is produced in part by rainwater falling on and moving through the soil in the project area. Since the Pollution Prevention Plan requirements in the draft permit apply to all the discharges authorized, the language in this section refers generally to all effluent discharges rather than specifically to stormwater and/or non-stormwater discharges.

X. OTHER CONSIDERATIONS UNDER FEDERAL LAW

A. Consideration of Environmental Justice

EPA's Environmental Justice policy establishes fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. As part of the environmental permitting process, EPA considers cumulative environmental impacts to disproportionately impacted communities.

In American Samoa, EPA is aware of several environmental burdens facing communities with limited resources, including but not limited to ongoing boil water notices on the local drinking water system, domestic wastewater treatment only to primary standards, industrial discharges, runoff from small-scale piggeries, unsewered area, and an abundance of cesspools for individual residences.

This permit was written to regulate a dewatering discharge from contaminated soil remediation and construction of new sanitary sewer pipelines in the village of Aua. This project is intended to clean up former contamination of soil and groundwater, and provide sanitary sewer service to residences and community buildings that previously had no sewer connection, thereby improving environmental conditions for the residents of Aua. This permit requires also all discharges to Pago Pago Harbor to meet water quality-based requirements that ensure the receiving water is protected for all applicable beneficial uses.

As a result of the analysis, EPA is aware of the potential for cumulative burden of the permitted discharge on the impacted community and will issue this permit in consideration of the village of Aua and surrounding communities in American Samoa and consistent with the CWA, which is protective of all beneficial uses of the receiving water, including human health.

B. Impact to Threatened and Endangered Species

Section 7 of the Endangered Species Act of 1973 (16 U.S.C. § 1536) requires federal agencies to ensure that any action authorized, funded, or carried out by the federal agency does not jeopardize the continued existence of a listed or candidate species, or result in the destruction or adverse modification of its habitat.

The applicant, USACE, is performing ESA Section 7 Consultation with the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) for this discharge, which is part of a larger project being undertaken by USACE.

EPA will provide the USFWS and NMFS with copies of the draft fact sheet and the draft permit during the public notice period.

C. Impact to Coastal Zones

The Coastal Zone Management Act ("CZMA") requires that Federal activities and licenses, including Federally permitted activities, must be consistent with an approved state Coastal Management Plan (CZMA §§ 307(c)(1) through (3)). Section 307(c) of the CZMA and implementing regulations at 40 CFR § 930 prohibit EPA from issuing a permit for an activity affecting land or water use in the coastal zone until the applicant certifies that the activity complies with the State (or Territory) Coastal Zone Management program, and the State (or Territory) or its designated agency concurs with the certification.

The American Samoa Coastal Zone Management program, the Department of Commerce, provided a general concurrence for all NPDES permit renewals in American Samoa (June 2010). Therefore, the permittee has demonstrated consistency with the Coastal Zone Management program.

D. Impact to Essential Fish Habitat

The 1996 amendments to the Magnuson-Stevens Fishery Management and Conservation Act ("MSA") set forth a number of new mandates for the National Marine Fisheries Service, regional fishery management councils and other federal agencies to identify and protect important marine and anadromous fish species and habitat. The MSA requires Federal agencies to make a determination on Federal actions that may adversely impact Essential Fish Habitat ("EFH").

The draft permit contains technology-based effluent limits and numerical and narrative water quality-based effluent limits as necessary for the protection of applicable aquatic life uses.

EPA will send the draft EFHA to NMFS during the public notice period.

E. Impact to National Historic Properties

Section 106 of the National Historic Preservation Act ("NHPA") requires federal agencies to consider the effect of their undertakings on historic properties that are either listed on, or eligible for listing on, the National Register of Historic Places. Pursuant to the NHPA and 36 CFR § 800.3(a)(1), EPA is making a determination that issuing this draft NPDES permit does not have the potential to affect any historic properties or cultural properties. As a result, Section 106 does not require EPA to undertake additional consulting on this permit issuance.

XI. STANDARD CONDITIONS

A. Reopener Provision

In accordance with 40 CFR §§ 122 and 124, this permit may be modified by EPA to include effluent limits, monitoring, or other conditions to implement new regulations, including EPA-approved water quality standards; or to address new information indicating the presence of effluent toxicity or the reasonable potential for the discharge to cause or contribute to exceedances of water quality standards.

B. Standard Provisions

The permit requires the permittee to comply with EPA Region IX Standard Federal NPDES Permit Conditions.

XII. ADMINISTRATIVE INFORMATION

A. Public Notice (40 CFR § 124.10)

The public notice is the vehicle for informing all interested parties and members of the general public of the contents of a draft NPDES permit or other significant action with respect to an NPDES permit or application.

B. Public Comment Period (40 CFR § 124.10)

Notice of the draft permit will be placed in a daily or weekly newspaper within the area affected by the facility or activity and on the EPA website, with a minimum of 30 days provided for interested parties to respond in writing to EPA. The draft permit and fact sheet will be posted on the EPA website for the duration of the public comment period. After the closing of the public comment period, EPA is required to respond to all significant comments at the time a final permit decision is reached or at the same time a final permit is actually issued.

C. Public Hearing (40 CFR § 124.12)

A public hearing may be requested in writing by any interested party. The request should state the nature of the issues proposed to be raised during the hearing. A public hearing will be held if EPA determines there is a significant amount of interest expressed during the 30-day public comment period or when it is necessary to clarify the issues involved in the permit decision.

D. Water Quality Certification Requirements (40 CFR §§ 124.53 and 124.54)

For States, Territories, or Tribes with EPA approved water quality standards, EPA requests certification from the affected State, Territory, or Tribe that the permit will meet all applicable water quality standards. Certification under section 401 of the CWA shall be in writing and shall include the conditions necessary to assure compliance with referenced applicable provisions of sections 208(e), 301, 302, 303, 306, and 307 of the CWA and appropriate requirements of Territory law. American Samoa EPA provided § 401 certification of this permit on <DATE>.

XIII. CONTACT INFORMATION

Comments, submittals, and additional information relating to this proposal may be directed to:

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XIV. REFERENCES

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