

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT ENGINEERING & COMPLIANCE APPLICATION PROCESSING AND CALCULATIONS	Page 1 of 4 pages Appl. Nos.: 547751 Processed by: Ngoc Tran Checked by: Date: 5/7/13
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**PERMIT TO OPERATE (PO no PC) for
SUMP WITHOUT CONTROL in TANK FARM AREA, AN 547751
for SPENT ACID pH ADJUSTMENT**

COMPANY NAME: BP West Coast Products LLC
COMPANY ID: 131003
MAILING ADDRESS: P.O. Box 6210
Carson, CA 90749
EQUIPMENT LOCATION: 1801 E Sepulveda Blvd.
Carson, CA 90745

EQUIPMENT DESCRIPTION:
SECTION D:

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions * And Requirments	Conditions
Process 19: PETROLEUM MISCELLANEOUS					
System 8: SUMP, COVERED, SPENT ACID pH ADJUSTMENT					
SUMP, SPENT H2SO4 & STORM/WASHDOWN WATER, LOCATED AT TANK FARM AREA, RW xxxx-xxx.xx, COVERED, 4951 GALLONS, W: 7 FT 8 IN; L: 12 FT 4 IN; D: 7 FT, WITH TWO COMPARTEMENTS: ONE FOR pH ADJUSTMENT WITH A MIXER & ONE FOR STORM/WASHDOWN WATER COLLECTION A/N: 547751	<u>DX1</u>				

BACKGROUND:

The relevant permitting history of the sump is summarized below:

- 5/29/02: A Notice to Comply (NTC #61527) was issued to BP to comply with permit requirement for a sump located in the alkylation unit (**Attachment 1**).
- 7/18/02: BP submitted an application (AN 404240) for two sumps located at the alkylation unit and the tank farm area. Fee of \$5160.00 was submitted (fee Schedule E and 50% penalty: \$3440.00 x 1.5 = \$5160.00).
- 4/9/03: BP submitted another application (AN 418721) to install two carbon adsorbers serving the sump located at the alkylation unit. This application was cancelled on 9/30/08, as per BP's request in a letter dated 8/6/03, since the carbon adsorbers were already installed (**Attachment 2** – Note that AN 414220 referenced in this letter was a typo, which should be 418721 instead).
- 2/28/13: BP submitted this application (AN 547751) for the sump located at the tank farm area since it's treated as a separate permit unit. There is no control equipment serving this sump.

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This PO no PC evaluation is conducted for AN 547751, a covered sump located at the tank farm area.

ENFORCEMENT RECORD REVIEW:

There is no NTC/NOV issued to BP related to the uncontrolled sump located in the tank farm area in the past two years. As mentioned in the background section, an NTC (NTC #61527 dated 5/29/12) was issued to BP for operating the sump without a permit.

PROCESS DESCRIPTION:

This existing sump located at the tank farm area has been using to receive, store, and treat the spent sulfuric acid. Specifically, the acidic solution accumulated in this sump is converted to the alkaline solution utilizing the liquid sodium hydroxide. The sump contains two compartments (one is for pH adjustment and the other one is used as an storm/washdown water sump) and is equipped with a fixed cover, a flame arrestor, a liquid level indicator, and a pH level indicator. The pH adjustment compartment is also equipped with a 1-HP mixer.

The influent streams' pH level is between 1 to less than 7 and after being adjusted, the pH level will be from 7 up to 12. The caustic solution is added to the sump based on the liquid level and pH level measurements. No fuming is expected during the adjustment/mixing period. After being adjusted, the effluent streams are routed to the water sewage. Occasionally, the sump can be served as an overflow basin for storm or washdown water overflow.

In the permit application, the sump is called "neutralization" sump with the final treatment/adjustment pH can be up to 12. As per BP's records (email dated April 3, 2013 - Attachment 3), the pH has not been exceeded 12.5 year-to-date. As such, it's more appropriate to rename the function of the sump to "pH adjustment." At 12.5 and higher, the spent solution is considered carrying the corrosivity characteristic of a hazardous material as per the 40CFR 261.22 definition as follows:

H:\NgocTran BP Dec2012\CorrosivityCharacSump 547751 404240 CFR-2010-title40-vol25-sec261-22.pdf

§ 261.22 Characteristic of corrosivity.

(a) A solid waste exhibits the characteristic of corrosivity if a representative sample of the waste has either of the following properties:

(1) It is aqueous and has a pH less than or equal to 2 or greater than or equal to 12.5, as determined by a pH meter using Method 9040C in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, as incorporated by reference in § 60.11 of this chapter. (2) It is a liquid and corrodes steel (SAE 1020) at a rate greater than 6.35 mm (0.250 inch) per year at a test temperature of 55 °C (130 °F) as determined by Method 1110A in "Test Methods for Evaluating Solid Waste, Physical/ Chemical Methods," EPA Publication SW-846, and as incorporated by reference in § 260.11 of this chapter.

(b) A solid waste that exhibits the characteristic of corrosivity has the EPA Hazardous Waste Number of D002.

[45 FR 33119, May 19, 1980, as amended at 46 FR 35247, July 7, 1981; 55 FR 22684, June 1, 1990; 58 FR 46049, (nt/sump spt H2SO4 pH adjustment no control in tk farm area po no pc 547751_SR1_final.doc)

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As per the P&ID (Drawing #BF-4000-60009-S1, Revision 53 dated 2/2013, Attachment 4), the spent acid is generated from the following sources:

- Alkylation unit P9S1: Drains from Devices D2890, D663, D668, and D649. Currently, the 40CFR61 Subpart FF is erroneously tagged to Devices D663 & D668. Through this evaluation, the FF tagging and associated Condition H23.12 will be removed for correction.
- Acid pump area and pipe trench.
- Fresh acid storage area P9S1: Drains from Devices D1493, D1494, D661, and D662.
- Blowdown/spent acid storage area P9S1: Drains from Devices D667, D651, D659, and D660.

The tank farm sump's spent acid is not contaminated with hydrocarbon as per BP's analysis specified in the BP's application package and emails. The sump's effluent is routed to the refinery's oily water sewer and then to the refinery wastewater treatment system. The treated wastewater is sent to the LACSD. The throughput limit is not needed because the sump is a front end unit of the wastewater treatment system which is used to collect/store the storm/washdown water overflow as summarized below:

Spt acid & overflow storm/washdown H2O → sump → refinery oil sewer → refinery ww treatment system → treated ww → LACSD

The sump is being operated 24 hours per day, 7 days per week, 52 weeks per year.

EMISSION CALCULATIONS:

The spent acid and storm/washdown water accumulated in this sump is not expected to be contaminated with any hydrocarbon. As such, no VOC emissions generated from this tank farm sump.

RULE EVALUATION:

RULE 212: There is no emissions from the sump so the public notice is not required.

RULE 219: The spent sulfuric acid storage equipment is not exempt per Rule 219(m)(1)(A). As such, this sump needs a separate permit.

RULE 401: The sump is not expected to violate rule 401 as fuming is not expected during mixing with the caustic solution.

RULE 402: Nuisance complaints are not expected under normal operating conditions.

Reg X - NESHAP: 40CFR61 Subpart FF:
No FF streams are routing into this sump. The 40CFR61 Subpart FF does not apply.

RULE 1176: The sump receives only wastes with a VOC content of less 5 mg/l and non-contact washdown water/stormwater runoff. Therefore, the sump is exempt from this rule per paragraphs (h)(5)(G) and (h)(5)(J).

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Reg. XIII – New Source Review: No VOC emissions is expected to emit from this sump.
Reg XIII does not apply.

RULE 1401: No toxic air contaminants are expected emitted from this sump. Sulfuric acid received by the sump is converted into a salt through a reaction with sodium hydroxide. R1401 does not apply.

Reg XXX Title V Permit R3005 – “Permit Revision”:

The initial Title V permit was issued to BP on September 1, 2009. The proposed revision to BP’s Title V permit for an uncontrolled PO no PC sump is a Minor Revision pursuant to R3005(c). A 45-day EPA review is required, but the proposed revision does not require a public notification under R3006(b).

CONCLUSIONS/RECOMMENDATIONS:

This tank farm sump used to collect the spent acid and adjust its pH to the alkaline side is expected to comply with all applicable rules and regulations. Therefore, a PO-no-PC is recommended subject to the administrative conditions listed in Section E of the FP/Title V permit.