

# Abstract

In order to grasp the current status of soil and groundwater quality in Taichung City, the Environmental Protection Bureau of Taichung City Government (hereinafter referred to as the Environmental Protection Bureau) handled the "110 Annual Soil and Groundwater Pollution Investigation and Verification Work Plan-Taichung City" (hereinafter referred to as this plan) for the district Perform regular soil and groundwater monitoring, factory soil quality investigations, emergency response investigations and public complaints, soil gas detection at gas stations within the jurisdiction, inspections of pipeline sites, verification of pipeline sites, regular inspections, maintenance and management of monitoring wells, and soil handling Pollution law related publicity activities and many other tasks. The implementation period of this project is from January 1, 110 to December 20, 110. The project will complete approximately 88.14% of the work specified in the contract during the contract performance period. The following is an explanation of the results of the work completed this year:

## 一、 Regular monitoring of farmland soil

The project is completed in Daya District, Zhongshan Section 380, and Houli District, Dunbei Section 582 (partial), 556 (partial), 361, 362, 363, 338 (partial), 384 , 489 area number and 500 area number (partial). A total of 8 regular soil monitoring and sampling tests have been completed on the hills. According to the results of the regular monitoring, the farmland of each hill is lower than the soil pollution monitoring standard and the monitoring reference value of the edible crop farmland.

## 二、 Installation, maintenance and monitoring of groundwater monitoring wells

### (一) Regular inspections of monitoring wells

According to the SGM system, 208 regular inspections and monitoring wells should be conducted in the first half of the year; 209 regular inspections and monitoring wells should be conducted in the second half of the year. The inspection data is uploaded to the SGM system.

### (二) Monitoring well maintenance operations

This plan continues the results of last year's plan implementation and this year's monitoring well inspections and internal function inspection results. The monitoring wells are screened for defects in appearance, abnormal internal functions, or monitoring wells that are no longer necessary for monitoring. According to the implementation of the contract, 37 wells have been photographed. There were 37 micro-water test holes, 18 monitoring wells were maintained for appearance, 9 monitoring wells were repaired, 18 wells were re-completion, 5 wells were removed from the wells, and 5 were abandoned wells.

### (三) Regular monitoring operations of monitoring wells

According to the contract content, complete the monitoring operation of 3 ports B00113, B00466 and L00065 in the Guangzheng Road area of Dali during the dry and high water period, and the three ports of B00073, B00074 and B00109 in the Taichung First Plant of Hanxiang Aviation Industry Co., Ltd. once in the wet period. , A total of 9 times of regular groundwater monitoring, sampling and testing operations.

During the dry season in the Guangzheng Road area of Dali, heavy metals of 0.78 mg/L and 0.567 mg/L of chromium were detected in B00113 and B00466, respectively, which exceeded the second-category groundwater pollution control standards. The heavy metal chromium 0.29 mg/L detected in L00065 exceeded the second-category groundwater pollution monitoring standard; B00466 detected heavy metal nickel 0.512 mg/L that exceeded the second-category groundwater pollution monitoring standard. During the wet season, the heavy metal chromium 0.729 mg/L was detected in B00113, which exceeded the second type groundwater pollution control standard, and in B00466, the heavy metal chromium 0.334 mg/L exceeded the second type groundwater pollution monitoring standard, which was lower than the low-water period detection result. The detection is lower than the second type of groundwater pollution monitoring standard and lower than the low-water period detection result.

The monitoring items of the 3 monitoring wells of the Taichung No. 1 Plant of Hanxiang Aviation Industry Co., Ltd. during the rainy season are all lower than the second type of groundwater pollution monitoring standards.

### 三、 **Verification of contaminated sites**

This year, this plan has completed assisting 5 site verification operations, namely, 377 Jingmei Section in Beitun District, Zhengyou Co., Ltd. (second verification), and 256-17 Zhancuoyuan Section in Dali District (A total of two verifications), the National Wenxin Gas Station and the PetroChina Wangtian Oil Supply Service Center. The verification results of each site are in line with the improvement goals. However, Zhengyou Co., Ltd. only completed the verification of soil pollution improvement this year; Continue to implement groundwater pollution improvement.

### 四、 **Storage facility management**

#### (一) Online regular reporting and review operations

This year's plan is to assist in completing the review of online applications in January and May. In September, due to the impact of this year's new crown pneumonia epidemic, the deadline for application in September was postponed to January 11. This year, all gas stations within the jurisdiction completed the declaration within the declaration deadline. This plan will assist in completing the review at the end of January and May.

#### (二) Gas station-leak test tube function test and oil and gas detection, soil gap gas GC/FID

This year, we plan to assist in the completion of 51 stations of gas station-leak detection tube function test and oil and gas detection, and complete the on-site document verification of each station. According to the 51 stations of leak detection tube oil and gas detection results, implement 1 point of soil gap gas refueling in Taichung Port GC/FID sampling and testing operations. In addition, according to the environmental protection agency's on-site inspection of gas stations, the National Daya Interchange Station in Daya District will conduct two-point soil gap gas GC/FID sampling and testing operations.

(三) In response to the revision of the Water Pollution Law, the confirmation and counseling of the compliance with the above-ground storage tank system that meets the definition of the new industry category

The project has completed 380 above-ground storage tank system regulatory compliance confirmation and counseling work. Most of the operators are in compliance with the regulations, and the main non-compliance projects are the non-compliance projects of the overflow dike.

#### 五、 **Announcement of verification of business land**

A total of 6 verification operations have been completed this year, namely, Yong\*qiang Industry Co., Ltd., Taiwan\*gang Gas Station, Yuan\* Industry Co., Ltd., You\* Paint Industry Co., Ltd. Third Plant, Qian\* Metal Co., Ltd. and Song\* Metal Industry Co., Ltd. Co., Ltd. verification operation. Yong\*qiang Industrial Co., Ltd. found that total petroleum hydrocarbons exceeded the soil pollution control standards and Yuan\* Industry Co., Ltd. detected heavy metals chromium, nickel and copper that exceeded the soil pollution control standards. \*Metal Industry Co., Ltd. has detected cases exceeding the soil pollution monitoring standards. The test results of Taiwan\*gang gas station and You\* Paint Industry Co., Ltd. all met the soil pollution control standards and soil pollution monitoring standards.

#### 六、 **Tracking and counseling of factories with high pollution potential**

This project has completed the EPA's assignment of 2 high-pollution potential factories this year to guide the work, namely Nan\* Industrial Co., Ltd. (hereinafter referred to as Nan\* Company) and Song\* International Industrial Co., Ltd. (hereinafter referred to as Song\* Company). Among them, Nan\* Industry Co., Ltd. put forward pollution prevention and improvement suggestions for many locations and requested improvement instructions and schedule plans within the deadline; Nan\* Corporation proposed related improvement instructions and schedule plans in July. This plan will be reviewed on October 20th; Nan\* Company will update part of the surface and set up the water basin according to the planned schedule. It is recommended that the next year's plan continue to be tracked. As Song\* Company initially judged that the pollution potential is low during the on-site counseling

period, it is recommended to strengthen environmental management this year without the need to go through the on-site inspection.

In addition, this plan is based on the implementation of the 109 plan for the follow-up review of Hua\* Musical Instrument Manufacturing Co., Ltd. The results of the review have been installed in the wastewater pipeline according to the 109 counseling recommendation, but the paving and environmental management in the factory are still not perfect. The Environmental Protection Agency discussed the continuous guidance and improvement work for the plant. Therefore, the verification work has not been carried out this year. It is recommended that if the company does not complete the improvement in the next year, the soil and groundwater pollution verification work can be carried out.

## 七、 Publicity work

### (一) Briefing on relevant laws and regulations of storage facilities

Due to the impact of the new crown pneumonia epidemic, indoor meetings are restricted to more than 100 people. This plan will be held on March 3 and April 27 at the Dadun Cultural Center in the morning and afternoon. And monitoring equipment installation management method" regulations briefing meeting, invites 380 practitioners scheduled to perform on-site compliance confirmation and counseling work this year, and 4 regulatory briefing sessions with a total of 206 practitioners participating; the total number of participants reached 257, meeting the contract requirements to participate The number is at least 200 people.

### (二) Educational and publicity activities on the prevention and control of campus soil and groundwater pollution

In accordance with the contract, this project has completed 15 campus promotion activities and 1 seed teacher training meeting. The total number of participants is 781, and the total number of participants meeting the contract requirements is at least 480.

### (三) Printed by EPA Picture Book

According to the content of the contract, 200 copies of "Little Animals,

Little Detectives" and "Why is Little Water Cry?" drawn by the Environmental Protection Agency must be printed. A total of 400 picture books have been printed for this project and distributed to each school in the campus promotion activities. 10 books.

(四) Environmental protection laws and regulations (soil and groundwater pollution remediation law) promotion briefing

According to the content of the contract, a briefing on the introduction of the soil pollution law for listed sites was completed, and 70 companies were invited to write and implement pollution documents on polluting sites and agents. The Tiange Hotel, Taichung, Taichung will be held on October 29th. The number of participants on the day of the transaction was 52, and more than 50 were in compliance with the contract.

八、 **Cases of emergency response and public complaints**

At present, this plan has completed 4 cases of public complaints according to the instructions of the agency, supporting emergency response funds of 379,845 yuan; the remaining 420,155 yuan.

(一) 6-103, Nissin Section, Dajia District

The reason for the case was that farmers near the Nissin section of Dajia District suspected that the roots of taro planting were affected by irrigation water and the roots were not growing well. Therefore, it was planned to carry out soil sampling and testing for each hill in the area of No. 2 at No. 6-103 in the Nissin section. Detect and analyze eight heavy metal items (cadmium, chromium, copper, nickel, lead, zinc, mercury, arsenic), soil pH and soil conductivity. This project has completed on-site sampling operations at two points on April 16. The test results It shows that soil heavy metals are lower than the control standards for edible crop farmland and the monitoring benchmark value for edible crop farmland, and there is no special abnormality in soil pH and conductivity.

(二) Lot 459, Huameizhuang Section, Daya District

The cause of the case is that the heavy rain caused oil pollution from nearby factories to flow into the farmland at No. 459 in Huameizhuang Section

of Daya District. In order to clarify whether there is a risk of pollution due to this, it is planned to implement 2 points at No. 459 in Huameizhuang Section. Soil sampling and testing. The testing and analysis items are total petroleum hydrocarbons. The project has completed on-site sampling operations at two points on June 28, and the test results show that they are all below the soil pollution control standards.

- (三) The EPA plans to conduct crop pollution damage monitoring and control work in the first phase of the year 110, synchronizing farmland soil sampling

The cause of the case is that it was affected by the new crown pneumonia epidemic in May this year. To reduce cross-county and city movement, Taiwan's three-level alert assisted the Environmental Protection Agency in carrying out simultaneous agricultural soil sampling operations. This plan has been completed and assisted in Nantun District, Wuri District, A total of 6 agricultural lands in Dali District and Dajia District and other administrative regions cooperated in the implementation of synchronous sampling of agricultural land soil.

- (四) Yuan\* Industry Co., Ltd. Groundwater Pollution Verification Operation

The cause of the case was that it was discovered that the soil of Yuan\* Industry Co., Ltd. was polluted by heavy metals chromium, nickel, and copper and exceeded the control standards for the second type of groundwater pollution due to the implementation of the announced business pollution verification operation. It was handled in order to clarify whether there is any concern about groundwater pollution at the site Groundwater pollution verification operations. The monitoring wells were set up on October 17 and groundwater sampling was performed on October 26. The results of groundwater testing were all lower than the second type of groundwater pollution control standards.