REMEDIAL CLOSURE REPORT FOR SUMP 2 – SOUTHERN CALIFORNIA GAS COMPANY, ALISO CANYON GAS STORAGE FACILITY, 12801 TAMPA AVENUE, NORTHRIDGE, CALIFORNIA 91326 – SUBMITTED SEPTEMBER 7, 2011

In 1998, ENV America Incorporated (ENV) performed an investigation within the SCG facility that included Sump 2 (ENV 1998). ENV confirmed the presence of Sump 2 through a review of historical aerial photographs and by trenching. The sump was estimated to occupy an area of approximately 80 feet by 100 feet and extend to a depth of more than 18 feet below ground surface (bgs) at the deepest depth investigated. Five exploratory trenches (Tl, T2, T3, T4, and TS) were excavated at Sump 2; several samples were analyzed. The upper 4.5 feet of material was noted to consist of unstained fill soils with scattered debris. This surficial material was underlain by stained soil and drilling mud. Two samples (in one of their exploratory trenches from a depth of 15 feet bgs) contained concentrations of total petroleum hydrocarbons (TPH) (C13 to C23 range) of 12,220 milligrams per kilogram (mg/kg) and 25,900 mg/kg, which are greater than the Regional Water Quality Control Board (RWQCB) cleanup level of 1,000 mg/kg. A collected soil sample from another trench was reported with a TPH (C13 to C23 range) concentration of 21,700 mg/kg, also above the RWQCB screening level. Based on the results of ENV's study, remediation of Sump 2 was recommended.

Eco & Associates, Inc. (Eco) also conducted an environmental investigation on January 20, 2006 at the abandoned oil field sumps 14 through 23 within the western portion of the Aliso Canyon Gas Storage Facility. A subsurface investigation was recommended at seven of these sumps. Three of the sumps, Sumps 17, 18, and 19, were not included in the subsurface investigation as a result of inaccessibility (See Summary For: Oil Well Sump Reconnaissance and Investigation Report)

Eco & Associates, Inc. (Eco) was contracted by the Southern California Gas Company (SCG) in 2010 to oversee the removal of impacted soil from Sump 2 in their Aliso Canyon Gas Storage Facility. Soils containing contaminant concentrations greater than RWQCB cleanup levels would be targeted for removal.

The RWQCB cleanup levels are as follows:
- TPH in the C4-C12 range – 100 mg/kg
- TPH in the C13-C22 range – 1,000 mg/kg
- TPH in the C23-C40 range – 10,000 mg/kg

- A total of 9,725.08 tons of impacted soil were removed within Sump 2 between October 11 and November 19, 2010.

- The final excavation covered approximately 13,060 square feet of area and the depth varied between 26 and 31 feet.

- The sump materials were generally comprised of drilling mud (clayey soil) and soil cuttings stained with petroleum hydrocarbons. Drilling mud was generally found between at least 15 and 31 feet bgs.

- The soils immediately overlying the drilling mud were heavily stained with oil. Free product (oil) was encountered locally within the sump between the surface and depths of approximately 25 feet. Trash, such as vehicle tires, construction materials, and metal debris was also encountered locally between the surface and at least 25 feet.

- Representative soil samples of sump materials were periodically collected during excavation activities. These collected soil samples (six total) were analyzed for TPH and VOCs. The reported TPH concentrations exceeded cleanup goals in four of the six soil samples. As a result, additional excavation was conducted.

- When excavation was completed and prior to backfilling, 59 confirmation soil samples were collected from the bottom and sidewalls of the Sump 2 excavation. Forty-four soil samples were collected from the excavation's sidewalls, and fifteen soil samples were collected from the excavation's bottom. These collected soil samples were analyzed for TPH and VOCs using EPA Methods 8015 (carbon chain) and 8260B, respectively.

- Petroleum hydrocarbons were not reported in the confirmation soil samples at concentrations that exceed established cleanup levels.

- None of the collected confirmation soil samples from Sump 2 were reported with detectable VOC concentrations.

In summary, soil containing concentrations greater than established cleanup levels was targeted for removal. A total of 9,725.08 tons (388 truckloads) of impacted soil were removed from Sump 2 between October 11 and November 19, 2010. Based on a review of the analytical results of the confirmation soil sample analyses, it was assessed that impacted soil at this former sump location had been successfully removed.