



TANK CLEANING REPORT

FOR
GLOBAL CALIBRATION SERVICES LIMITED

CLEANING OF FIVE (5) VESSELS AND SUMP TANK

AT
WEST AFRICAN GAS PIPELINE COMPANY
(TAKORADI)

DATE: 21ST JULY – 24TH JULY, 2020

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Job Description

Bidi Group Ltd was contracted by Global Calibration Services Limited (GCSL) to undertake cleaning of Gas Vessels and Sump Tank at West African Gas Pipeline Company (WAPCo), Takoradi. The Description of the tanks are as follows;

Name of Client:	GLOBAL CALIBRATION SERVICES (for WAPCO)
Location:	Takoradi
Tanks/Vessels Assigned:	Gas Scrubber (1), Filter Separators (2), Vent Scrubber, Fuel Gas Scrubber and Sump Tank
Tank Capacities:	N/A
Tank Height:	N/A
Tank Diameter:	N/A
Product:	LNG
No. of Bidi Group Personnel:	5
Duration:	4 Days (Tuesday July 21st – Friday July 24th, 2020)
Last Cleaning Date of Tank:	N/A

List of Bidi Group Personnel Deployed

1. Emmanuel Plange Dontoh - HSE Officer & First Aider
2. Yussif Haruna - Tank Cleaning Officer
3. Sumaila Agudah - Tank Cleaning Officer
4. Emmanuel Atuobi - Tank Cleaning Officer
5. Emmanuel Avowotor - Tank Cleaning Officer

Pre-Cleaning Inspection Observation:

The gas plant was in partial shutdown at the time the Bidi Group Technicians arrived on site. There were no other contractors who were undertaking other projects at the site.

Work Procedure

During the Four (4) day work duration, the following procedure were adopted;

Day 1: Tuesday 21st July, 2020

- Arrival of Bidi Group personnel to cleaning site at WAPCo.
- Safety Induction and inspection of PPE by client.
- Issuance of General Work Permit to begin work.
- Toolbox meeting with authorized personnel of WAPCo and Bidi Group Team.
- Inspection of the various vessels and tanks designated for cleaning was done. The appropriate areas to position truck and equipment was ascertained.



Day 2: Wednesday 22nd July, 2020

- Holding of tool box meeting among Global Calibration technicians, Bidi Group Technicians and WAPCo personnel was conducted.
- Truck was positioned and the necessary equipment were offloaded.
- Work begun on the Vent Scrubber. Very thick and semi solidified material had deposited in the tank and had a depth of 8cm at the gate. There was an entry by Bidi Group Technicians to evacuate debris and solidified sediments.
- The pressure washer was used to introduce a high pressure water and degreaser mixture into the tank.
- The pressure washer was also used to unclog stuck sediments from the outlets, nipples and check valves.

- Same procedure for cleaning the vent scrubber was used to clean the fuel gas scrubber which had little sludge in it. It also had blocked lines as well which were declogged.
- The team also started work on the first filter separator. All the filters in the vessel were clogged and removed for disposal.
- Dried and caked material in the filter separator were also removed and cleaned with the pressure washer. This was however not inspected by the API Inspector.
- The necessary paper work were signed and the team left work area awaiting continuation of work the next day.

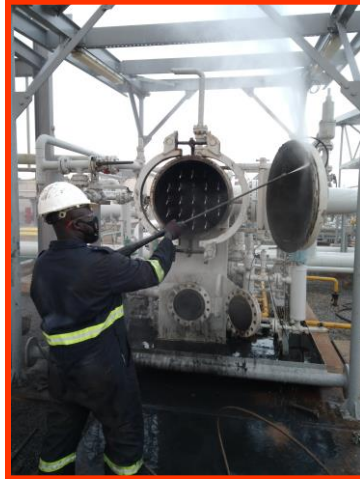
VENT SCRUBBER



FUEL GAS SCRUBBER



FILTER SEPARATOR

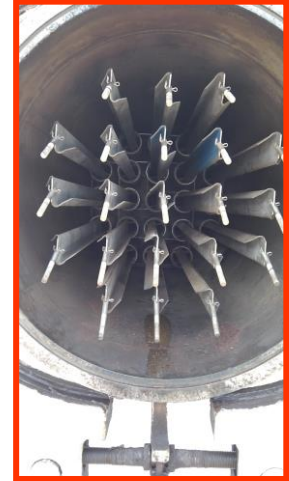


Day 3: Thursday 23rd July, 2020 (Two Filter Separators and Gas Scrubber)

- Holding of tool box meeting among Global Calibration technicians, Bidi Group Technicians and WAPCo personnel was conducted.
- The first filter separator was opened and high pressure washing was conducted on its line to unclog them. The skid was cleaned later on.
- The second filter separator was opened and filters (which were fit to be reused) removed. High pressure washing was conducted on its lines, nipples and check valves to unclog them. The skid was cleaned.
- The gas scrubber having its gate difficult to open was opened after several hours. The team couldn't get enough time on it and began by removing debris at the door area. The debris was approximately about 10cm at the gate.

FILTER SEPARATORS





GAS SCRUBBER

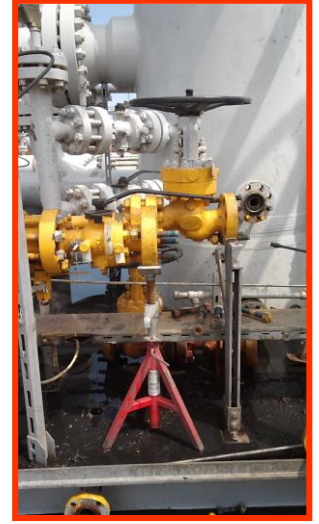
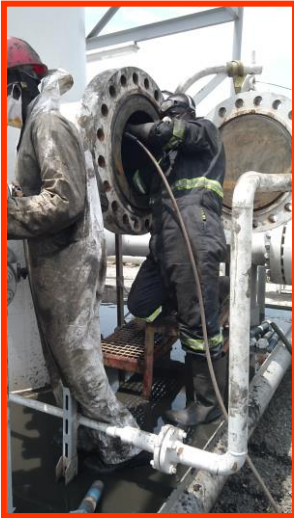


Day 4: Friday 24th July, 2020 (Gas Scrubber and Sump Tank)

- Holding of tool box meeting among Global Calibration technicians, Bidi Group Technicians and WAPCo personnel was conducted.
- The cleaning team began evacuation of sludge from the gas scrubber, using specially fabricated brass shovels.
- Technicians at some point had to enter the vessel to clear up had to reach debris. This activity was done as and when necessary with clearance from all three safety officials on site
- The Pressure washer was used to introduce the mixture of water and degreaser into the scrubber, to dislodge sludge that has settled on the tank walls. Clogging at the nipples, pipe elbows and check valves were cleared.

- The operation was completed and inspected and the skid cleaned up
- Zoil Technicians who were charged by Global Calibration arrived on site and joined forces with Bidi Group Technicians to evacuated sludge from the sludge tank.
- Specially fabricated shovels helped to fetch out sludge that couldn't be pumped out and the tank washed thoroughly with the Gamajet X and Pressure washer.
- The team cleared up the working area and packed all equipment into the truck for exit.

GAS SCRUBBER



SUMP TANK





Recommendations

- During the tank cleaning process, there was the presence of harmful gases in the vessels. Even though a few hours were left for degassing, complete degassing couldn't take place as the debris within the vessels kept replenishing is gases. Hence a breathing apparatus becomes essential and more importantly it is recommended that we shift from Self-Contained Breathing Apparatus (SCBA) to Supplied Air Breathing Apparatus (SABA) because it makes ingress and egress of hatches easier for technicians. Talking of SABA it is worth noting that WAPCo doesn't allow gasoline powered systems on its site.
- To reduce the risk of fire, brass tools should be employed, avoid the use of gasoline powered pressure washer and avoid the use of plastics in the process area.

Appendix

PPE & Other Safety Items Used:

- Respirators
- Overall Uniforms
- Reflective Vests
- Safety Gloves
- Safety Goggles
- Gas Detectors
- Hard hat (Helmet)
- Wellington Boots
- Safety Boots
- Caution tapes and cones
- Safety signage

Equipment Deployed:

- Gamajet X
- Buckets
- Scrubbing brushes
- Mops
- Squeegees
- Plastic Shovel
- Tools Box
- Tarpaulin

Chemicals used:

- Xp3 Multi-Purpose Degreaser

Safety Statistics

- Injuries Recorded - Zero (0)
- Fatalities Recorded - Zero (0)
- Near Misses - Zero (0)
- Spillage of Toxic Material to environment - Zero (0)

Prepared by:

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HSE Representative – Bidi Group Ltd

28th July, 2020