


|  |  |                           |   |
|--|--|---------------------------|---|
|  | <b>Case Study Report</b><br>ARAMCO AINDAR GOSP |                           | <b>Gulf Industrial Services Co.</b><br>شركة الخليجية للخدمات الصناعية |
|  | Equipment No                                   | K-002                     |   |
|  | Eqp. Description                               | COMPRESSOR K-002 ADGOSP-1 |   |
|  | Job Description                                | VARNISH REMOVAL           |   |

## VRU Application of Gas Oil Separation Plant for Aramco

The condition of turbine oil before purification: On August 21, 2025, the customer took samples of the turbine oil for testing. It was found that the MPC value of the oil was 35.2 and the cleanliness ISO was 22/20/15, the oil had severe varnish contamination, water content.3%, as well as a large amount of particles.

### Device Introduction

|                           |                                 |
|---------------------------|---------------------------------|
| Compressor brand          | FS-Elliott&DeLaval              |
| Device name               | LP Gas compressor               |
| Oil brand                 | ORIZON® Turbo Compressor oil 46 |
| The duration of oil usage | Almost 1 year                   |
| Oil tank capacity         | 1500L                           |

### Customer Requirement

- Reducing the MPC value to below 10;
- Reducing the cleanliness to below NAS 7;
- Extend the oil usage period and avoid the risk of shutdown.

### Our Solutions

Oil purifier model : WVDJ-20-IIC  
 Oil purifier commissioning time : August 31, 2025



### Operation Effect

The MPC dropped from 35.2 to 9.3 within 15 days. And in 10 days, the cleanliness ISO decreased from 22/20/15 to 16/14/11. The VRU has a very significant effect on purifying contamination such as varnish, particles and other pollutants in the oil. There is no significant abnormal fluctuation in the temperature of the bearing bush.



Before purification: 08/29/2025



After purification: 09/15/2025

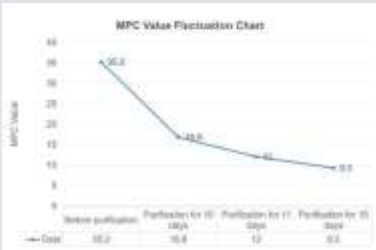


Before purification:



After purification

### Operation Process



| Date  | MPC Value |
|-------|-----------|
| 08/29 | 35.2      |
| 09/04 | 16.8      |
| 09/09 | 12        |
| 09/13 | 9.3       |

After 10 days of purification, the MPC value decreased to 16.8, and the cleanliness ISO decreased to 16/14/11. After 11 days of purification, the MPC value decreased to 12, and the cleanliness ISO decreased to 14/13/10. After 15 days of purification, the MPC value decreased to 9.3, and the cleanliness ISO was 15/13/10. It can be seen that after the VRU was put into use, the MPC value continued to decrease.

|   |                                     |           |                  |
|---|-------------------------------------|-----------|------------------|
| <b>Gulf Industrial Services Co.</b><br>شركة الخليج للخدمات الصناعية | <b>GULF INDUSTRIAL SERVICES CO.</b> | Doc. No.  | GISR - MRT - 007 |
|   |                                     | Rev. No.  | 01               |
|   | <b>CUSTOMER FEEDBACK FORM</b>       | Rev. Date | 01-JAN-2025      |
|   |                                     | Page No.  | 1 of 1           |

|      |                   |
|------|-------------------|
| Date | November 26, 2025 |
|------|-------------------|

**CUSTOMER DETAILS:**

|          |                              |                     |                                   |
|----------|------------------------------|---------------------|-----------------------------------|
| Name     | Saudi Aramco                 | Contact Person Name | Tariq Nadeem                      |
| Address  | 1400 NGMD ADMIN BLDG. ABQAIQ | Department          | North Ghawar producing Department |
| Email ID | Tariq.nadeem@aramco.com      | Contact Number      | +966534293227                     |

Dear Sir/Madam,

We request you to kindly put a "TICK" mark in the respective boxes against each aspect described below and to assess your feedback with respect to the service we have provided so far. Any other suggestion or remarks please indicate the same to improve further. Thank you for taking your time for giving your valuable feedback to us.

| Description                              | Rating about our Services |           |              |                  |
|--|---------------------------|-----------|--------------|------------------|
|  | Excellent                 | Very Good | Satisfactory | Not Satisfactory |
| Technical capabilities                   |                           | ✓         |              |                  |
| Personnel Attendance                     |                           | ✓         |              |                  |
| Certification                            | ✓                         |           |              |                  |
| Delivery schedule                        | ✓                         |           |              |                  |
| Material Handling                        | ✓                         |           |              |                  |
| Commercial Terms                         | N/A                       |           |              |                  |
| Understanding the needs and expectations |                           | ✓         |              |                  |
| HSSE & Loss Prevention Compliance        |                           |           |              |                  |

If you need any further information, please do not hesitate to write us & you are always welcome to visit our company.

**Suggestion and Remarks:**

Gulf Industrial Services Co. extended fully support to resolve NGPD varnish issue on K-002 LP Gas compressor at ADGOSP-1 with excellent follow up and results supporting through lab test analysis

We strongly recommend supplier to arrange permit receiver for future use

Feedback given by (Name & Signature):

*Tariq Nadeem, NGPD/RU Engr.*  
*11/27/25*

**For Company use only**

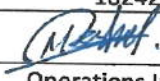

Comments on feedback by QAQC / Operation Manager:

**CONTRACT WORK COMPLETION CERTIFICATE**

Date: 29 SEP 2025.

Client : North Ghawar Producing Department  
Contractor : GULF INDUSTRIAL SERVICES COMPANY.  
P.O BOX 10314,  
JUBAIL INDUSTRIAL CITY – 31961,  
KINGDOM OF SAUDI ARABIA.  
Purchase Order No :  
Job Description : Varnish Removal Technology at ADGOSP-1 - K-002  
Job Start Date : 8/31/2025  
Job Completion Date : 9/22/2025  
Total No. Of Days : 23 Days.

We hereby certify that the above-mentioned work is completed successfully, and the undersigned acknowledges site hand over by Gulf Services Company and confirms that all contractual obligations have been fulfilled as per Aramco standard for this specific job.

|              | GIS REPRESENTATIVE  | NGPD REPRESENTATIVE |
|--------------|---|---------------------|
| Name         | MESHAL AL HARBI   |                     |
| ID No.       | 182422  |                     |
| Signature    |  | faisal 11/27/2025   |
| Designation  | Operations In charge  | S. Tang Nadeem      |
| Date         |   | NGPD/RV 11/27/2025  |
| Company Seal |  |                     |