Recommended Practice for Electrical Submersible Pump Teardown Report

API RECOMMENDED PRACTICE 11S1 THIRD EDITION, SEPTEMBER 1997

EFFECTIVE DATE: DECEMBER 15, 1997

REAFFIRMED, SEPTEMBER 2020



Recommended Practice for Electrical Submersible Pump Teardown Report

Upstream Segment

API RECOMMENDED PRACTICE 11S1 THIRD EDITION, SEPTEMBER 1997

EFFECTIVE DATE: DECEMBER 15, 1997

REAFFIRMED, SEPTEMBER 2020



American Petroleum Institute

SPECIAL NOTES

API publications necessarily address problems of a general nature. With respect to particular circumstances, local, state, and federal laws and regulations should be reviewed.

API is not undertaking to meet the duties of employers, manufacturers, or suppliers to warn and properly train and equip their employees, and others exposed, concerning health and safety risks and precautions, nor undertaking their obligations under local, state, or federal laws.

Information concerning safety and health risks and proper precautions with respect to particular materials and conditions should be obtained from the employer, the manufacturer or supplier of that material, or the material safety data sheet.

Nothing contained in any API publication is to be construed as granting any right, by implication or otherwise, for the manufacture, sale, or use of any method, apparatus, or product covered by letters patent. Neither should anything contained in the publication be construed as insuring anyone against liability for infringement of letters patent.

Generally, API standards are reviewed and revised, reaffirmed, or withdrawn at least every five years. Sometimes a one-time extension of up to two years will be added to this review cycle. This publication will no longer be in effect five years after its publication date as an operative API standard or, where an extension has been granted, upon republication. Status of the publication can be ascertained from the API Authoring Department [telephone (202) 682-8000]. A catalog of API publications and materials is published annually and updated quarterly by API, 200 Massachusetts Avenue, NW, Suite 1100, Washington, DC 20001.

This document was produced under API standardization procedures that ensure appropriate notification and participation in the developmental process and is designated as an API standard. Questions concerning the interpretation of the content of this standard or comments and questions concerning the procedures under which this standard was developed should be directed in writing to the director of the Authoring Department (shown on the title page of this document), American Petroleum Institute, 200 Massachusetts Avenue, NW, Suite 1100, Washington, DC 20001. Requests for permission to reproduce or translate all or any part of the material published herein should also be addressed to the director.

API standards are published to facilitate the broad availability of proven, sound engineering and operating practices. These standards are not intended to obviate the need for applying sound engineering judgment regarding when and where these standards should be utilized. The formulation and publication of API standards is not intended in any way to inhibit anyone from using any other practices.

Any manufacturer marking equipment or materials in conformance with the marking requirements of an API standard is solely responsible for complying with all the applicable requirements of that standard. API does not represent, warrant, or guarantee that such products do in fact conform to the applicable API standard.

All rights reserved. No part of this work may be reproduced, stored in a retrieval system, or transmitted by any means, electronic, mechanical, photocopying, recording, or otherwise, without prior written permission from the publisher. Contact the Publisher, API Publishing Services, 200 Massachusetts Avenue, NW, Suite 1100, Washington, DC 20001. Copyright © 1997 American Petroleum Institute

FOREWORD

This recommended practice is under the jurisdiction of the American Petroleum Institute (API) Subcommittee on Field Operating Equipment.

This recommended practice shall become effective on the date printed on the cover but may be used voluntarily from the date of distribution.

API publications may be used by anyone desiring to do so. Every effort has been made by the Institute to assure the accuracy and reliability of the data contained in them; however, the Institute makes no representation, warranty, or guarantee in connection with this publication and hereby expressly disclaims any liability or responsibility for loss or damage resulting from its use or for the violation of any federal, state, or municipal regulation with which this publication may conflict.

Suggested revisions are invited and should be submitted to the director of the Exploration and Production Department, American Petroleum Institute, 200 Massachusetts Avenue, NW, Suite 1100, Washington, DC 20001.

CONTENTS

Page
1 SCOPE 1
2 ADDITIONAL INFORMATION 1
APPENDIX A—RECOMMENDED PRACTICE FOR API RP 11S1 TEARDOWN REPORTING DATABASES
APPENDIX B—TEARDOWN REPORT QUERIES
Figures
1 Typical Motor Section
2 Typical Seal Chamber Section Types
3 Typical Pump Section
4 Typical Gas Separator Section Types
A-1 Relationship Diagram for Teardown Reporting
A-2 Recommended Observation Codes for ESP Teardown
A-3 Pertinent Data
A-4 Teardown Observation Data
A-5 Pertinent Data (Equipment Identification)
A-6 Common Terms for Remarks Teardown Observation Code Breakdown Table 21
A-7 Common Terms for Remarks Observation Code Breakdown
A-8 Reason for Pump Pull
A-9 Failure Codes
B-1 Example 1: Teardown Report Queries
B-2 Example 2: Teardown Report Queries

Recommended Practice for Electrical Submersible Pump Teardown Report

1 Scope

This recommended practice covers a recommended electrical submersible pump teardown report form. It also includes equipment schematic drawings which may provide assistance in identifying equipment components. It should be noted that these schematics are for generic equipment components, and there may be differences between manufacturers on the exact description or configuration of the assemblies.

2 Additional Information

In order to properly interpret the information gathered using this API recommended practice, the following data also should be provided:

- a. Equipment amp charts.
- b. Production data prior to failure.

c. Information on any unusual conditions such as sand or scale production, power interruptions, bad weather or storms, changes in chemical treatments, etc.

d. Equipment pull and run reports, service reports, and equipment test records.