

Land Drilling Practices for Protection of the Environment

API RECOMMENDED PRACTICE 52
SECOND EDITION, JULY 1, 1995

REAFFIRMED, SEPTEMBER 2010



AMERICAN PETROLEUM INSTITUTE

Land Drilling Practices for Protection of the Environment

Exploration and Production Department

API RECOMMENDED PRACTICE 52
SECOND EDITION, JULY 1, 1995

REAFFIRMED, SEPTEMBER 2010



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Generally, API standards are reviewed and revised, reaffirmed, or withdrawn at least every 5 years.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 5 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 (214) 953-1101]. A catalog of API publications and materials is published annually and updated quarterly by API, 1220 L Street, N.W., Washington, D.C. 20005.

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 Exploration and Production Department, American Petroleum Institute, 700 North Pearl, Suite 1840, Dallas, Texas 75201. Requests for permission to reproduce or translate all or any part of the material published herein should also be addressed to the director.

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.

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.

CONTENTS

	Page
0 INTRODUCTION	1
1 SCOPE	1
2 REFERENCES	1
2.1 Standards	1
2.2 Other References	1
2.3 U.S. Environmental Laws	1
2.3.1 Clean Air Act (CAA)	1
2.3.2 Clean Water Act (CWA)	2
2.3.3 Safe Drinking Water Act (SDWA)	2
2.3.4 Resource Conservation and Recovery Act (RCRA)	3
2.3.5 Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)	3
2.3.6 Emergency Planning and Community Right-to-Know Act (EPCRA)	3
2.3.7 National Historic Preservation Act (NHPA)	4
2.3.8 Endangered Species Act	4
2.3.9 Hazardous Materials Transportation Act (HMTA)	4
2.3.10 National Environmental Policy Act (NEPA)	4
2.3.11 Oil Pollution Act of 1990 (OPA '90)	4
2.3.12 Other Laws and Regulations	4
3 ACRONYMS AND ABBREVIATIONS	4
4 PLANNING	5
4.1 Interactive Communications and Planning	5
4.1.1 Communications Between Operator and Surface Owner or Tenant	5
4.1.2 Operator, Contractor, and Service Company Communications ...	5
4.1.3 Internal Communications	6
4.2 Site Assessment and Construction Planning	6
4.2.1 Public Safety	6
4.2.2 Size	6
4.2.3 Topography	6
4.2.4 Soil	6
4.2.5 Surface Water	6
4.2.6 Groundwater	6
4.2.7 Wildlife	6
4.2.8 Livestock	6
4.2.9 Vegetation	6
4.2.10 Cultural and Historical Resources	6
4.2.11 Weather	7
4.2.12 Operational Plans	7
4.2.13 Potential Hazards	7
4.2.14 Restoration	7
4.2.15 Dust Suppression	7
4.2.16 Noise Suppression	7
4.2.17 Storage Areas	7
4.2.18 Sanitation Systems	7
4.3 Drilling Fluids and Solids Control Planning	7
4.3.1 Reserve Pit Design	7
4.3.2 Solids Removal Equipment	7

4.3.3	Drilling Fluid Additives	7
4.4	Water Management Planning	7
4.4.1	Rig Wash Water	8
4.4.2	Storm Water	8
4.5	Waste Management Planning	8
5	DRILLING SITE AND RIGHT-OF-WAY PREPARATION	8
5.1	Introduction	8
5.2	Site Construction	8
5.3	Move In and Rig Up	9
5.3.1	Equipment Preparation Prior to Moving	9
5.3.2	Site Inspection	9
5.3.3	Special Considerations—Air Drilling Operations	9
5.3.4	Pressure Control Equipment	9
5.3.5	Sanitation Equipment	9
5.3.6	Location Housekeeping	9
6	DRILLING OPERATIONS	10
6.1	Pollution Prevention Hierarchy	10
6.1.1	Source Reduction	10
6.1.2	Recycling	10
6.1.3	Treatment	10
6.1.4	Disposal	10
6.2	Review of Drilling Plan Prior to Spud	10
6.3	Drilling Fluid System	10
6.4	Formation Pressure Control	11
6.5	Hazardous Wastes	11
6.6	Location and Right-of-Way Maintenance	11
6.7	Drill String	11
7	COMPLETION, TESTING, AND PLUGGING AND ABANDONMENT OPERATIONS	11
7.1	General	11
7.2	Completion Operations	11
7.2.1	Logging	11
7.2.2	Completion Fluids and Chemicals	12
7.2.3	Production Casing and Tubing	12
7.2.4	Cementing	12
7.2.5	Perforating	12
7.2.6	Acidizing	12
7.2.7	Fracturing Stimulation	12
7.2.8	Completion Fluid Filtration	12
7.3	Testing	12
7.4	Plugging and Abandonment	13
8	DECOMMISSIONING	13
8.1	Chemical and Waste Disposal	13
8.2	Contaminated Soil	13
8.3	Location Restoration	13

FOREWORD

API Recommended Practice 52, First Edition, was issued in February 1976.

This recommended practice was prepared by the Subcommittee on Land Drilling Practices for Protection of the Environment and is under administration of the American Petroleum Institute Exploration and Production Department's Executive Committee on Drilling and Production Practices.

It is intended that this voluntary recommended practice serves as a guide to promote protection of the environment in land drilling operations. Users of this publication are reminded that constantly developing technology, specific company requirements and policy, and specialized or limited operations do not permit coverage of all possible operations, practices, or alternatives. This recommended practice does not present all possible practices for protecting the environment in land drilling operations. Alternative operating procedures and/or equipment are available and routinely used to meet or exceed recommended practices or performance levels set forth herein. Recommendations presented in this publication are not intended to inhibit developing technology and improved equipment or operating procedures. This publication, or portions thereof, cannot be substituted for qualified technical/operational analysis and judgement to fit a specific situation.

There may be federal, state, or local statutes, rules, or regulations requiring land drilling operations to be conducted in a certain manner. Organizations or individuals using this recommended practice are cautioned that requirements of federal, state, or local environmental laws and regulations are constantly evolving and should be reviewed to determine whether or not the practices recommended herein are consistent with current laws and regulations. Land drilling operations must comply with the applicable requirements of federal, state, or local regulations.

Suggested revisions to this recommended practice are invited and should be submitted in writing to the director of the Exploration and Production Department, American Petroleum Institute, 700 North Pearl Street, Suite 1840, Dallas, Texas 75201-2845.