VOLUME FIFTY SIX

DEVELOPMENTS IN PETROLEUM SCIENCE

WELL COMPLETION DESIGN

By

Jonathan Bellarby SPE (Society of Petroleum Engineers) NACE International and TRACS International Consultancy Ltd. Aberdeen, UK



Amsterdam • Boston • Heidelberg • London • New York • Oxford Paris • San Diego • San Francisco • Singapore • Sydney • Tokyo Elsevier Radarweg 29, PO Box 211, 1000 AE Amsterdam, The Netherlands Linacre House, Jordan Hill, Oxford OX2 8DP, UK

First edition 2009

Copyright © 2009 Elsevier B.V. All rights reserved

No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means electronic, mechanical, photocopying, recording or otherwise without the prior written permission of the publisher

Permissions may be sought directly from Elsevier's Science & Technology Rights Department in Oxford, UK: phone (+44) (0) 1865 843830; fax (+44) (0) 1865 853333; email: permissions@elsevier.com. Alternatively you can submit your request online by visiting the Elsevier web site at http://www.elsevier.com/locate/permissions, and selecting *Obtaining permission to use Elsevier material*

Notice

No responsibility is assumed by the publisher for any injury and/or damage to persons or property as a matter of products liability, negligence or otherwise, or from any use or operation of any methods, products, instructions or ideas contained in the material herein. Because of rapid advances in the medical sciences, in particular, independent verification of diagnoses and drug dosages should be made

Library of Congress Cataloging-in-Publication Data

A catalog record for this book is available from the Library of Congress

British Library Cataloguing in Publication Data

A catalogue record for this book is available from the British Library

ISBN: 978-0-444-53210-7 ISSN: 0376-7361

For information on all Elsevier publications visit our website at books.elsevier.com

Printed and bound in Hungary

09 10 11 12 13 10 9 8 7 6 5 4 3 2 1