

石油管材与仪器

SHIYOU GUANCAI YU YIQI

PETROLEUM TUBULAR GOODS & INSTRUMENTS

双月刊

- ◆ 《中国石油文献数据库》收录期刊
- ◆ 《中国期刊全文数据库》全文收录期刊
- ◆ 《中文科技期刊数据库》原文收录期刊
- ◆ 《中国核心期刊（遴选）数据库》收录期刊
- ◆ 《中国学术期刊影响因子年报》统计源期刊
- ◆ 《中国学术期刊综合评价数据库》统计源期刊

第五卷·第四期

二〇一九年八月

主办：中国石油集团石油管工程技术研究院

协办：石油管材及装备材料服役行为与结构安全国家重点实验室

中国石油天然气集团有限公司石油管工程重点实验室

陕西省石油管材及装备材料服役行为与结构安全重点实验室

国家石油管材质量监督检验中心

2019
Vol. 5



目 次

■ 综 述

- 1 基于无线传感网络的油气管道监测技术研究进展 刘 强,丁 楠,汪鹏勃,白 强,宋生印,李厚朴,杨专创
9 高钢级天然气输送管道止裂预测模型研究进展 杨 坤,池 强,李 鹤,张伟卫,霍春勇

■ 开发设计

- 15 宽频调速模块研制与应用 周明高
19 0.2 m 高分辨率双侧向测井仪器信号幅度仿真 童茂松,张加举,丁 柱
23 水下声学定位系统性能测试仪研制 任文静,雷 宇,卢 涛,刘 俊

■ 试验研究

- 26 煤层开采引起的输气管线变形安全评估研究 张广学,房 振,白 艳,徐秀清,郭广礼
30 全钛合金钻杆性能测试试验研究 杨晓勇,陈世春,冯 强,刘永峰,张 恒,张文华

■ 仪器设备与应用

- 34 油井产出剖面测井方法优选 冉 磊
38 电极系连斜并径微电极组合仪大组合测井的实现 崔志刚,刘江龙,吴凤武,何中盛,马涛涛,吴俊杰
41 分层流量实时测调仪校准模拟并筒深度研究 王海鹏
45 数字化地震队系统在超高效混叠采集施工中的应用 封召鹏,宋研拓,刘进宝,尚永生,吴常瑞,翟金浩

■ TEC 2019国际会议专栏

- 49 油田注水用复合管受力性能研究 杨 峰,明尔扬,迟 花,于志猛,刘 辉,李洪浩,于春振
53 玻璃钢分层注水管研发与应用 陶佳栋,金立群,袁 伟,卢明昌
57 双轴取向聚乙烯管材的制备及结构与性能研究 王宇杰,赵晓文,牛振宇,孔 琛,黄 强,陈商涛,荔枝红,胡 杰,叶 林
61 防垢防蜡耐温聚乙烯复合管道在油田的应用 陈 平,霍福磊,牛振宇,侯学辉,周正伟,应淑妮,冯金茂,陈国贵

■ 失效分析与预防

- 66 法兰泄漏失效原因分析 张 良,王新生,李 超,武 万,李 沫
70 哈 13-12 井套管在固井过程中断裂原因分析 滕学清,朱金智,吕栓录,谢俊峰,盛 勇
74 集油管道失效原因分析 宋成立,方 艳,陈庆国,苗 健,李孝军

■ 标准化

- 78 基于应变设计管道用钢管技术标准的发展 李为卫,韩林生,陈宏远,秦长毅,许晓锋
84 天然气管道工程用清管三通标准探讨 王 鹏,池 强,李为卫

■ 经验交流

- 87 单井管道注水掺稀一管双用可行性分析 李发根,石 鑫,羊东明,丁 楠
91 检验检测机构及实验室智能化发展探索 宋 寰,卫尊义,白小亮,仝 珂
94 声波测井同步信号去伪技术 杨 贺
97 环空电缆试井技术在水平井压裂中的应用 王 卓,王 磊

- 8 2020 年《石油管材与仪器》期刊征订
44 本刊加入“万方数据”——数字化期刊群的声明
48 《石油管材与仪器》广告征求函
77 《石油管材与仪器》征稿要求
83 本刊加入中国学术期刊(光盘版)在 CNKI 中国知网及其系列数据库的声明
90 《石油管材与仪器》期刊投稿须知
96 广 告 索 引

主 编:冯耀荣
副 主 编:姜 婷 马小芳
本期责编:屈忆欣
英文编辑:屈忆欣
技术编辑:王 骏
广告主管:韩德林

编辑出版:《石油管材与仪器》编辑部
本刊地址:西安市锦业二路89号
邮政编码:710077
编 辑:029-81887825 81887589
投 稿:029-81887585
广告发行:029-81887583
网 址:www.gcyq.org
电子邮箱:sygcyyq@126.com
发 行:《石油管材与仪器》编辑部
印 刷:陕西省委机关第二印刷厂
国际标准连续出版物号:ISSN 2096-0077
国内统一连续出版物号:CN 61-1500/TE
邮发代号:52-286
广告经营许可证号:6101004003048
单册定价:20.00元
全年定价:120.00元

PETROLEUM TUBULAR GOODS & INSTRUMENTS

CONTENTS

OVERVIEW

- 1 Status of Oil & Gas Pipeline Inspection and Monitoring Based on Wireless Sensor Network Technology *LIU Qiang, DING Nan, WANG Pengbo, BAI Qiang, SONG Shengyin, LI Houbo, YANG Zhuanzhao*
- 9 Research on the Crack Arrest Prediction Models and Their Progress for High Grade Steel of Natural Gas Pipeline *YANG Kun, CHI Qiang, LI He, ZHANG Weiwei, HUO Chunyong*

DEVELOPMENT AND DESIGN

- 15 Development and Application of Broadband Speed Regulation Module *ZHOU Minggao*
- 19 Signal Amplitude Analysis of 0.2 m-vertical-resolution Dual Laterolog Tool *TONG Maosong, ZHANG Jiaju, DING Zhu*
- 23 Development of a Performance Tester for the Benthacoustic Positioning System *REN Wenjing, LEI Yu, LU Tao, LIU Jun*

EXPERIMENTS AND INVESTIGATION

- 26 Safety Assessment of Gas Pipeline Deformation Caused by Coal Mining *ZHANG Guangxue, FANG Zhen, BAI Yan, XU Xiuqing, GUO Guangli*
- 30 The Experimental Study on Full Titanium Alloy Drill Pipe Performance Test *YANG Xiaoyong, CHEN Shichun, FENG Qiang, LIU Yongfeng, ZHANG Heng, ZHANG Wenhua*

INSTRUMENT AND EQUIPMENT

- 34 Optimization of Well Production Profile Logging Method *RAN Lei*
- 38 The Realization of ECIM in the Large Combination Logging *CUI Zhigang, LIU Jianglong, WU Fengwu, HE Zhongsheng, MA Taotao, WU Junjie*
- 41 Research on Simulated Wellbore Depth for the Calibration of Separate Layer Flowrate Real-time Measuring and Adjusting Instrument *WANG Haipeng*
- 45 Application of Digital Seismic System in the Vibratos Ultra High Productivity *FENG Zhaopeng, SONG Yantuo, LIU Jinbao, SHANG Yongsheng, WU Changrui, ZHAI Jinhao*

SPECIAL TOPIC OF TEC 2019

- 49 Mechanical Behavior Study of Composite Pipe for Oilfield Water Injection *YANG Feng, MING Eryang, CHI Hua, YU Zhimeng, LIU Hui, LI Honghao, YU Chunzhen*
- 53 Development and Application of Glass Fiber Reinforced Plastics Well Casing for Zonal Injection *TAO Jiadong, JIN Liqun, YUAN Wei, LU Mingchang*
- 57 Preparation, Structure and Properties of Biaxially Oriented Polyethylene Pipes *WANG Yujie, ZHAO Xiaowen, NIU Zhenyu, KONG Chen, HUANG Qiang, CHEN Shangtao, LI Shuanhong, HU Jie, YE Lin*
- 61 Application of Anti-scale, Anti-Waxdeposition and Temperature-resistant Modified Polyolefin Composite Pipes in Oilfields *CHEN Ping, HUO Fulei, NIU Zhenyu, HOU Xuehui, ZHOU Zhengwei, YING Shuni, FENG Jinmao, CHEN Guogui*

FAILURE ANALYSIS AND PREVENTION

- 66 Failure Analysis of Flange Leakage *ZHANG Liang, WANG Xinsheng, LI Chao, WU Wan, LI Mo*
- 70 Cause Analysis on Casing Fracture During Cementation in Well HA13-12 *TENG Xueqing, ZHU Jinzhi, LYU Shuanlu, XIE Junfeng, SHENG Yong*
- 74 Analysis on Failure Cause of Oil Gathering Pipeline *SONG Chengli, FANG Yan, CHEN Qingguo, MIAO Jian, LI Xiaojun*

STANDARDIZATION

- 78 Technical Standards of Steel Pipe for Pipeline Based on Strain Design *LI Weiwei, HAN Linsheng, CHEN Hongyuan, QIN Changyi, XU Xiaofeng*
- 84 Discussion on Pigging Tee Standards for Natural Gas Pipeline Engineering *WANG Peng, CHI Qiang, LI Weiwei*

EXPERIENCE EXCHANGE

- 87 Feasibility Analysis on Single Well Pipeline with Two Functions of Water Injection and Light Oil Dilution *LI Fagen, SHI Xin, YANG Dongming, DING Nan*
- 91 Exploration on Intelligent Development of Inspection and Testing Institutions and Laboratories *SONG Huan, WEI Zunyi, BAI Xiaoliang, TONG Ke*
- 94 Synchronization Signal De-spurious Technology of Acoustic Logging *YANG He*
- 97 Annulus Cable Testing Technology in Horizontal Well Fracturing *WANG Zhuo, WANG Lei*

Editor in Chief: Feng Yaorong
Vice chief-editor: Jiang Ting Ma Xiaofang
Editor in Charge: Qu Yixin
English Editor: Qu Yixin
Technical Editor: Wang Jun
Advertisement Department: Han Delin

Editor and Publisher:

Editorial Department of
PETROLEUM TUBULAR GOODS & INSTRUMENTS
Address: No.89 Jinye 2nd Road, Xi'an, China
Post Code: 710077
Editor Tel: (029) 81887825 81887589
Manuscript Tel: (029) 81887585
Advertisement Tel: (029) 81887583
Website: <http://www.gcyq.org>
E-mail: sygyyq@126.com
Distributor: Editorial Department of
PETROLEUM TUBULAR GOODS & INSTRUMENTS
Printer: The Second Printing Factory of
Shaanxi Shengwei Jiguan
Periodical Registration: ISSN 2096-0077
CN 61-1500/TE
Postal Code: 52-286
Advertisement License: 6101004003048
Subscription Rates: RMB 20.00 per copy
RMB 120.00 per year