

全国中文核心期刊
中国科技论文统计源期刊
RCCSE中国核心学术期刊 (A类)
中国科学引文数据库 (CSCD) 来源期刊

ISSN 1009-9603
CN 37-1359/TE
CODEN YDYCA5

油气地质与采收率

PETROLEUM GEOLOGY AND RECOVERY EFFICIENCY

PG&RE

2020⁴

第27卷 第4期 Vol.27 No.4

ISSN 1009-9603



中国石油化工股份有限公司胜利油田分公司 主办

油气地质与采收率

Youqi Dizhi yu Caishoulü

(公开发行 双月刊 1994年创刊)

第27卷 第4期 (总第145期)

2020年7月25日

国际标准连续出版物号 ISSN 1009-9603

国内统一连续出版物号 CN 37-1359/TE

主管单位 中国石油化工集团有限公司

主办单位 中国石油化工股份有限公司

胜利油田分公司

承办单位 胜利油田分公司勘探开发研究院

主 编 孔凡群

副 主 编 孙 国 杨 勇 张世明

李伟忠(常务)

编辑出版 《油气地质与采收率》编辑部

地 址 山东省东营市聊城路2号

邮政编码 257015

联系电话 0546-8715246, 8716980

网 址 <http://yqdzycsl.cnjournals.com>

电子邮箱 pgre@vip.163.com

责任编辑 单体珍

技术编辑 罗 欣

英文编辑 刘北羿 英文审核 王钧剑

国内发行 《油气地质与采收率》编辑部

国外发行 中国国际图书贸易总公司

(北京399信箱)

国外代号 BM1709

印刷单位 山东润天彩色印刷有限公司

广告经营许可证 3700004000143

国内定价 50.00元/册

Petroleum Geology and Recovery Efficiency

(Bimonthly, Started in 1994)

Vol.27, No.4, Jul.2020

Chief Editor: Kong Fanqun

Vice Chief Editor: Sun Guo, Yang Yong,

Zhang Shiming, Li Weizhong

Sponsor: Shengli Oilfield Company, SINOPEC

Undertaker: Exploration and Development

Research Institute, SLOF

Editor & Publisher: Editorial Board of *Petroleum*

Geology and Recovery Efficiency

Address: No.2 Liaocheng Road, Dongying,

Shandong, China

Zip Code: 257015

Telephone: 86-546-8715246, 8716980

Distributor: Editorial Board of *Petroleum*

Geology and Recovery Efficiency

Printer: Shandong Runtian Color Printing Co., Ltd.

如发现印刷、装订错误,请与编辑部联系更换

目 次

·油气地质·

- 1 博格达地区中二叠统芦草沟组沉积相及沉积演化
.....张奎华,曹忠祥,王 越,张关龙,薛 雁,王圣柱,曲彦胜,汪誉新
- 13 准噶尔盆地石炭系烃源岩发育模式及地球化学特征
.....王圣柱,王千军,张关龙,白仲才,熊峥嵘,梅文科,赵乐强
- 26 车排子凸起西翼轻质原油来源分析
.....王千军,陈 林,曹忠祥,张曰静,商丰凯,任新成
- 35 渤海海域庙西南洼陷走滑构造特征及其对油气成藏的控制作用
.....赵 野,杨海风,黄 振,赵弟江,王 航
- 45 疏松砂岩稠油层含油饱和度测井解释校正方法探讨
——以济阳坳陷沾化凹陷馆陶组为例
.....耿 斌,闫 华,周德志,程紫燕,康元勇,韩连滨,胡兴中
- 52 南苏门答腊盆地J区中新统进积三角洲成因砂体叠置样式
.....郝睿林,黄文辉,胡广成,刘景彦,祝厚勤

·油气采收率·

- 63 利用氦气标定空余体积计算方法的推导及应用.....陈元千,陈 浩,刘 彤
- 67 基于分形理论的低渗透油藏油水相对渗透率模型
.....苏海波,张世明,孙业恒,于金彪,杨明林,孟 薇,汪 勇,俞明理
- 79 基于瞬时流场潜力系数的水驱开发效果评价方法
.....冯其红,李闪闪,黄迎松,张先敏,刘海成,刘丽杰
- 85 基于神经网络的剩余油分布预测及注采参数优化.....吴君达,李治平,孙 妍,曹旭升
- 94 氧化溶蚀作用对页岩水相自吸的影响.....程秋洋,游利军,康毅力,周 洋,徐洁明
- 104 致密砂岩储层层理缝与构造缝渗吸差异分析——以吉木萨尔凹陷芦草沟组为例
.....梁成钢,罗 群,张金凤,陈佳宇,徐田录,崔 倩,滕志辉
- 111 低渗透油藏渗透率对CO₂驱重力超覆的影响规律
.....宋黎光,赵凤兰,冯海如,王 强,姜小康
- 117 厚层碳酸盐岩油藏宏观物理模拟实验研究
.....刘逸盛,刘月田,张琪琛,郑文宽,管长松,李广博,薛艳鹏
- 126 厚油藏CO₂驱气体超覆现象分析.....赵凤兰,王 强,宋黎光,姜小康,冯海如
- 133 胜利油区海上油田二元复合驱油体系优选及参数设计
.....赵方剑,曹绪龙,祝仰文,侯 健,孙秀芝,郭淑凤,苏海波
- 140 荷电分子膜固砂机理及油藏适应性评价.....段伟刚,邵现振,李文轩

·信息·

《油气地质与采收率》第六届编委会(封二) 《油气地质与采收率》征稿简则(封三)

《油气地质与采收率》简介(封四)

期 刊 基 本 参 数: CN37-1359/TE*1994*b*A4*146*zh*P*¥50.00*2000*17*2020-07

PETROLEUM GEOLOGY AND RECOVERY EFFICIENCY

Vol. 27 No.4 2020

CONTENTS

• PETROLEUM GEOLOGY •

Sedimentary facies and evolution of Middle Permian Lucaogou Formation in Bogda area

..... ZHANG Kuihua, CAO Zhongxiang, WANG Yue, ZHANG Guanlong, XUE Yan, WANG Shengzhu, QU Yansheng, WANG Yuxin (1)

Development mode and geochemical characteristics of Carboniferous source rocks in Junggar Basin

..... WANG Shengzhu, WANG Qianjun, ZHANG Guanlong, BAI Zhongcai, XIONG Zhengrong, MEI Wenke, ZHAO Leqiang (13)

Hydrocarbon source analysis of light oil reservoirs in west wing of Chepaizi Uplift

..... WANG Qianjun, CHEN Lin, CAO Zhongxiang, ZHANG Yuejing, SHANG Fengkai, REN Xincheng (26)

Strike-slip structural characteristics and its controlling effect on hydrocarbon accumulation in Miaoxinan Sag, Bohai Sea

..... ZHAO Ye, YANG Haifeng, HUANG Zhen, ZHAO Dijiang, WANG Hang (35)

Correction method of oil saturation in unconsolidated sandstone heavy oil reservoirs:

A case study of Guantao Formation in Zhanhua Sag, Jiyang Depression

..... GENG Bin, YAN Hua, ZHOU Dezhi, CHENG Ziyan, KANG Yuanyong, HAN Lianbin, HU Xingzhong (45)

Superimposition patterns of sandbodies in Miocene progradational deltas in Block J, South Sumatra Basin

..... HAO Ruilin, HUANG Wenhui, HU Guangcheng, LIU Jingyan, ZHU Houqin (52)

• PETROLEUM RECOVERY EFFICIENCY •

Derivation and application of the calculated methods by helium calibration void volume

..... CHEN Yuanqian, CHEN Hao, LIU Tong (63)

Oil-water relative permeability model of low permeability reservoir based on fractal theory

..... SU Haibo, ZHANG Shiming, SUN Yeheng, YU Jinbiao, YANG Minglin, MENG Wei, WANG Yong, YU Mingli (67)

Evaluation method of water flooding development effect based on instantaneous flow field potential coefficient

..... FENG Qihong, LI Shanshan, HUANG Yingsong, ZHANG Xianmin, LIU Haicheng, LIU Lijie (79)

Neural network-based prediction of remaining oil distribution and optimization of injection-production parameters

..... WU Junda, LI Zhiping, SUN Yan, CAO Xusheng (85)

Effect of oxidative dissolution on water spontaneous imbibition in shale gas reservoirs

..... CHENG Qiuyang, YOU Lijun, KANG Yili, ZHOU Yang, XU Jieming (94)

Analysis of imbibition difference between bedding fractures and structural fractures in tight sandstone reservoir:

A case study in Lucaogou Formation in Jimsar Depression

..... LIANG Chenggang, LUO Qun, ZHANG Jinpeng, CHEN Jiayu, XU Tianlu, CUI Qian, TENG Zhihui (104)

Influence of permeability on gravity segregation during CO₂ flooding in low-permeability reservoirs

..... SONG Liguang, ZHAO Fenglan, FENG Hairu, WANG Qiang, LOU Xiaokang (111)

Large-scale physical simulation experimental study on thick carbonate reservoirs

..... LIU Yisheng, LIU Yuetian, ZHANG Qichen, ZHENG Wenkuan, JIAN Changsong, LI Guangbo, XUE Yanpeng (117)

Analysis of gas overlap during CO₂ flooding in thick oil reservoir

..... ZHAO Fenglan, WANG Qiang, SONG Liguang, LOU Xiaokang, FENG Hairu (126)

Injection parameters optimization of binary combination flooding system in offshore oil field, Shengli oil province

..... ZHAO Fangjian, CAO Xulong, ZHU Yangwen, HOU Jian, SUN Xiuzhi, GUO Shufeng, SU Haibo (133)

Mechanism and reservoir adaptability of charged molecular membrane system for sand consolidation

..... DUAN Weigang, SHAO Xianzhen, LI Wenxuan (140)