

-PAPG-SPE-
ATC
ISLAMABAD

30th ANNUAL
TECHNICAL
CONFERENCE
& OIL SHOW 

24

EXPLORING FRONTIERS AND
REVITALIZING MATURE BASINS OF PAKISTAN

CALL FOR EXTENDED ABSTRACTS



LAST DATE OF SUBMISSION

JUNE 24, 2024



30th ANNUAL TECHNICAL CONFERENCE-2024

“Exploring Frontiers and Revitalizing Mature Basins of Pakistan”

CALL FOR EXTENDED ABSTRACTS

DEADLINE: JUNE 24, 2024

PAPG (Affiliated with AAPG) & SPE Pakistan plans to hold Annual Technical Conference in **November - December 2024** together with our Geoscience community. The theme for the conference is selected with input from honorable members keeping in view the current oil E&P industry challenges. Keeping in view the country’s energy challenges, E&P industry needs to deliberate roadmap for exploring frontier regions, underexplored basins, emerging plays, adding new plays in mature basins as well as adopting new technologies.

There is a global demand for energy transition by utilizing cleaner, affordable and accessible energy resources such as wind, hydro, biomass, REE and solar as well as exploitation of the mineral potential.

This year we would like to have an additional dedicated session on the **Renewable and Mineral Resources of Pakistan** as globally fossil based fuel (Energy) is in the transition phase towards zero carbon economy and we should exploit all the available earth resources to cope the energy needs and economic growth.

Moreover, this session shall explicitly argue that a transition to Renewables and Mineral Exploration is of critical importance for a secured and sustainable energy future in the country.

Download Sample Extended Abstracts

Attached samples are the ready references for writing an Extended Abstract this year. This is for your convenience

DOWNLOAD ABSTRACT SAMPLE

Deadline to Submit Extended Abstracts: June 24, 2024

Extended Abstracts of 250-400 words with minimum 03 generalized figures/drawings/charts (professionally drafted, well annotated and well explained) are invited from the E&P Industry professionals and other relevant technologies to share their experiences, case studies and novel techniques preferably related to the selected theme for ATC 2024.

Extended Abstract (Proposal) must fulfill the following criteria's:

1. Original ideas and content
2. Proposal should have new data & analysis
3. No duplication of other papers i.e. plagiarism which is up to 5-8% in acceptable range
4. Authors and their proposal should fulfill the scholastic requirements of an international research journal as well as co-authors should have their equal input.

WRITING AN EXTENDED ABSTRACT

An Extended abstract should be about 250-400 words and include the following elements:

1. **Title:** provide a short and informative with familiar terms.
2. **Objectives/Scope:** Please list the objectives and/or scope of the proposed paper.

3. **Methods, Procedures, Process:** Briefly explain your overall approach, including your methods, procedures and process.
4. **Results, Observations, Conclusions:** Please describe the results, observations and conclusions of the proposed paper.
5. **Novel/Additive Information:** Please explain how this paper will present novel (new) or additive information to the existing body of literature that can be of benefit to and/or add to the state of knowledge in the petroleum industry.

TIPS FOR WRITING AN EXTENDED ABSTRACT

1. Your title should avoid words “**new**” and “**improved**”.
2. Avoid literature overview in your objective.
3. Answer “**what**” and “**how**” in your methods.
4. Highlight the importance of your findings in your observations.
5. Avoid repeating your results and observations in your conclusion.
6. Focus the application of your findings on how to improve/cater the industry needs in an efficient and environmentally safe manner keeping in view the Theme of the Conference.
7. Highlight specifics about your innovations.
8. Provide succinct, relevant and convincing information with figures/map/charts/tables.

SELECTION CRITERIA

Your proposal should demonstrate that your paper will:

1. Contribute solid technical knowledge in a particular area or present relevant and interesting information keeping in view the Theme of the Conference
2. Present information that is technically sound & viable
3. Present new knowledge or experience that has not been published previously
4. **Not be commercial in nature and will not promote specific companies, products or services**

PLEASE NOTE

Following points must be considered for selection of Abstract/ Paper and presentation

1. Authors must incorporate Reviewer comments for final approval of the Paper/ Presentation (**mandatory**)

2. Relevant NOCs / Copyright Consents from the concerned Organizations must be furnished.
 3. Copyrights of the papers/ presentations would be transferred to ATC Technical committee
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G & G SUB THEMES / PAPER CATEGORIES

1. Unlocking the Pakistan Offshore
 2. Hydrocarbon potential of the Western Frontier Regions of Pakistan
 3. New and Emerging Exploration Plays
 4. Shale Gas Potential
 5. Field Development Challenges, Maximizing Mature fields value, Redevelopment, and end-of-field life planning
 6. Reservoir Characterization in Development Geology & Exploration
 7. Integration of Geophysics with Geology
 8. Petroleum Systems and Basin Modeling
 9. Petroleum Risk & Portfolio Management
 10. Health, Safety, Security and Environment
 11. Renewable Energy & Mineral Resources of Pakistan (**REE, Wind, Geothermal, Tidal, Hydel, Solar & Economic Minerals**)
 12. Technology Application for Exploration and production (**Power of AL and ML**)
-

PE SUB THEMES / PAPER CATEGORIES

The following SPE disciplines should be used for the writing abstracts & paper. It would allow efficient screening process and contribution from various disciplines towards the theme.

1. **Completions:** Topics covered include completion design and installation, intelligent wells, sand control, hydraulic fracturing, acidizing and stimulation, and well integrity.

2. **Drilling:** Covers topics from well planning and wellbore design through drilling equipment, systems and operations to casing and cementing.
3. **Health, Safety, Security, Environment and Social Responsibility:** Comprises core HSE topics, as well as research and sustainability issues.
4. **Management and Information:** Topics range from information systems and data use to strategic planning to energy economics.
5. **Production and Operations:** Focuses on topics including artificial lift, well operations and optimization, surveillance and monitoring, production chemistry, well intervention and decommissioning.
6. **Projects, Facilities and Construction:** Includes topics of interest such as processing, flow assurance and subsea systems, as well as measurement and control, platforms and floating systems, and facilities operations.
7. **Reservoir Description and Dynamics:** Topics range from simulation and formation evaluation to unconventional and enhanced recovery processes.
8. **Others**

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IMPORTANT DATES AND TIMELINES

Deadline for Extended Abstracts	24th June-2024
Acceptance and intimation to selected authors	8th July-2024
Submission of the first draft of full papers for review	13th August-2024
Submission of the Paper after incorporating the reviewer's comments	12th October-2024
Deadline for Submission of the ATC Presentation for review	10th November-2024
Submission of the final presentation	20th November-2024

SEND YOUR EXTENDED ABSTRACTS TO THE FOLLOWING EMAILS

Abstracts can be emailed directly to: atc-abstracts@papg.org.pk

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Member Technical Program Committee & Co-Chair Proceeding Publication Committee ATC 2024

IMPORTANT NOTICE/AWARDS & RECOGNITION:

This year, ATC Organizing Committee has decided to select the best top three (03) papers/presentations from each Category (G&G and PE/SPE) for the special awards and recognitions within the conference closing ceremony.

Selection of the papers/presentations for the awards shall be conducted by the

special review/selection committee. Details of the awards/selection procedures shall be shared later.

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Oil Reservoirs Conducive to Carbon Dioxide-Enhanced Oil Recovery (CO₂-EOR) and Optimization of New Technologies

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Introduction

Due to the process efficiency and improved oil recovery, CO₂ flooding technology has been researched extensively since 1972(Ghasemi et al., 2017; Yuncong, Mifu, Jianbo, & Chang, 2014). According to a report published by the international energy administration (EIA), fossil fuels will still be the prime source of energy for the coming 50 years (Philibert, 2017). It (Jishun, Haishui, Xiaolei, & Development, 2015) has been mentioned in a published paper that the past production history of the USA in the year 2014 showed wells produced through CO₂ flooding was among 128 CO₂-EOR projects, 39 were sandstone, 55 were carbonate reservoirs and only 9 were limestone and annual production from these reservoirs were 265×10⁴t, 803×10⁴t, and 223×10⁴t respectively. This data indicated that these reservoirs particularly limestone have the potential to improve the production rate to a great extent. The main objective of the current study is to investigate different types of oil reservoirs that are suitable for CO₂ flooding and the newly proposed techniques that can maximize production through CO₂ injection.

Conclusions

According to our comprehensive review on CO₂ flooding enhanced oil recovery and factors affecting it, oil recovery is performed in three stages: primary, secondary, and tertiary. The tertiary method which is also known as enhanced/improved oil recovery takes place when the first two methods are no longer effective. CO₂ injection is the most employed technique due to its great recovery

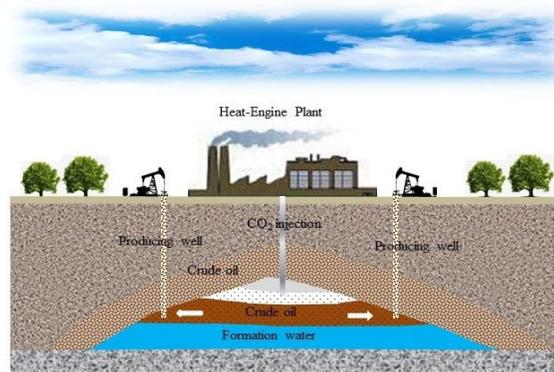


Fig 1. Graphical Abstract: Schematic diagram of Co2-EOR

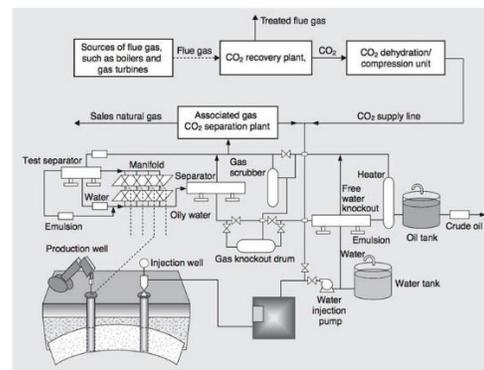


Fig 2. A typical system utilized in CO₂ – EOR. (Mohammadian et al, 2019).

Table 1 Screening guideline for miscible CO₂ flooding

Scholars	Grav.ity (API)	Visco.sity (CP)	Poros.ity (%)	Oil Saturati.on (%PV)	Press.ure (Psia)	Permea.bility (mD)	Depth (Ft)	Tempe.rature (F)
(Al Adasani, Bai, & Engineering, 2011)	28-45	0-35	3-37	15-89	-	1.5-450	150-365	82-250
(Gao, Towler, & Pan, 2010)	>27	<10	<12	-	-	<10	>2500	-

performance as well as mitigation of pollution synchronously. Of the two main techniques of CO₂ flooding, the miscible oil recovery has a greater ability to produce additional oil from the reservoir and miscible oil recovery can only be achieved at pressures higher than the minimum miscibility pressure (MMP). After making a comparison, we concluded that miscible projects are more than immiscible around the globe.

Prospects and challenges

Future research should focus to augment the deployment of CCUS (carbon capture, usage, and storage) considering the emergency of the greenhouse effect. However, CO₂-EOR plays a prime role in this regard.

References

Jishun, Q., Haishui, H., Xiaolei, L. J. P. E., & Development. (2015). Application and enlightenment of carbon dioxide flooding in the United States of America. *42*(2), 232-240.

(S. Bachu, Shaw, & Pearson, 2004)	27-48	-	-	>0.25	>1101	-	-	90-250
(J. J. Taber, Martin, & Seright, 1997)	>22	<10	-	>20	-	NC	>2500	NC
(Diaz, Bassiouni, Kimbrell, & Wolcott, 1996)	>37	-	-	0.60	-	300	-	160
(Rivas, Embid, & Bolivar, 1994)	>36	-	-	0.60	-	300	-	150
(J. Taber & Martin, 1983)	>26	<15	-	>0.3	-	NC	>2000	NC
(Carcoana, 1982)	>40	<2	-	>0.3	>1200	>1	<9800	<195
Geffen 1973	>30	<3	-	>0.25	>1100	-	-	-

Table 2 Screening guideline for Immiscible CO₂ flooding

Scholars	Grav (API)	Visco (CP)	Porosity (%)	Oil Saturati on (%PV)	Press (Psia)	Perme ability (md)	Dept (Ft)	Tempe rature (F)
(Jianbo, Yuncong, & Chang, 2016; Yuncong, Mifu, Jianbo, Chang, & Development, 2014)	-	1.9	-	-	-	1.8	6628	208
(Sahin, Kalfa, & Celebioglu, 2007; Sahin, Kalfa, Celebioglu, Duygu, & Lahna, 2012)	>12	600	15-20	-	180010-1004301	10	150	

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(Al Adasani et al., 2011)	11-35 Avg. 22.6	592- 0.6 65.5	17-32 Avg. 26.3	42-78 Avg. 56	-	30- 1000 Avg. 217	1150 - 8500 Avg. 3385	82-198 Avg. 124	
(Nadeson, Sayegh, & Girard, 2001)	-	-	0.17	-	22	112	4579	215	
(J. J. Taber et al., 1997)	>12	<600	-	>35	-	NC	1800	NC	
(Ishii, Sarma, Ono, & Issever, 1997)	4-13	936	11-23	-	1855. 7	<400	4430	122	
(Reid & Robinson, 1981)	17	160	33	>32	1200	1200	2550	118	
(Khatib, Earlougher, & Kantar, 1981)	16	195	31	-	-	2750	2600	126	
