



SPT MIRROR

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INDEX

EVENTS:

WEBINAR	-----	3
Distinguished lecture by Mr. Mark Salkheld	-----	5
Well Log Competition	-----	6
SPT Alumni Meet	-----	7
Distinguished lecture by Dr. Basudev Mohanty	-----	9
How to write an Abstract & Research Paper	-----	11
Distinguished lecture on Forensic Data Processing	-----	13
Lecture on Workover & Completion	-----	15
Workshop on Gravity Survey	-----	17
Distinguished lecture on Oil & Gas Industry– Facts, Crisis and Oppurtunity	-----	19
E– Conclave	-----	21
Interactive Session on Oil & Gas Training	-----	23
CAT vs GRE– An Engineer’s Dilemma	-----	25
Introduction to Risk Software	-----	27
SPE Week 2.0	-----	29
Career Building Workshop by Renaissance	-----	30
Petrospace	-----	31
Memorandum of Understanding	-----	32

ARTICLE:

Low Salinity Waterflooding : A new approach to IOR	-----	33
--	-------	-----------

NEWS:

TEST YOUR MIND:

Quiz	-----	37
Crossword	-----	39

MESSAGE FROM THE EDITORIAL BOARD

It happens to be a matter of immense elation and glory for all of us to greet you with this issue of SPT Mirror. SPT Mirror, right from its inception, has been a flagship achievement of the School of Petroleum Technology. We indeed feel the pride and joy of sharing our laurels with all our readers and reviewers. SPT Mirror today, stands as an important medium of connection between all the affairs of the SPT and our beholders. It is actually gratifying to receive appreciation and accolades from different quarters of industry and academe. SPT Mirror has been providing platforms to the burgeoning cocoon of thoughts, ideas and opinions from our readers and will continue to carry this benign mantle in the coming years of future. This issue of SPT Mirror covers all the momentous events that were organized since November 2015 by the School of Petroleum Technology (SPT) and the respective committees. It comprises of various career building sessions, Distinguished Lectures by some respected dignitaries of different companies, accomplishments of PDPU students etc. The periodical also includes some of the valuable pieces on the dynamic trends of petroleum industry and things beyond. We sincerely hope that you would appreciate our endeavors and find this issue worthwhile. We humbly beseech your feedbacks.

With Regards,
Editorial Board

MESSAGE FROM THE EDITORS



We would begin by extending a wholehearted welcome to all our readers and reviewers. We would also like to congratulate and thank the editorial board for putting up their unflagging efforts in materializing this issue of SPT Mirror. It imbues us with content and warm fuzzes to witness the heights of readership that the periodical has managed to attain in its past issues. We sincerely hope that it would burgeon and bag unprecedented laurels from its growing readership. This issue of SPT Mirror attempts to illustriously cover all the major events that the University was privileged to host in its premises. Furthermore, it also encourages and invites participation from all the readers of the periodical. SPT Mirror has been providing a flagship podium to all the budding thinking caps and the future of this humong-ous oil and gas sector. It has indeed been a very promising gesture to serve as a receptacle of worthy articles from all of you. We hope that this trend would flourish and there would be more contribution from your side. Conclusively, we would take this moment to thank all our readers and reviewers. We hope that you would appreciate this issue of SPT Mirror. We along with the entire editorial board of SPT Mirror humbly welcome your suggestion and feedbacks.

With Regards,

R. Balasubramanian

Vaishali Sharma



EVENTS

WEBINAR

Petroleum resources are the estimated quantities of hydrocarbons naturally occurring on or within the Earth's crust. Resource assessments estimate total quantities in known and yet to be discovered accumulations. Resources evaluations are focused on those quantities that can potentially be recovered and marketed by commercial projects. A Petroleum Resources Management System provides a consistent approach in estimating petroleum quantities, evaluating development projects, and presenting results within a comprehensive classification framework. After reaching the new milestone of Summit level chapter, SEG-SPG-EAGE PDPU student chapter successfully organized the first ever EAGE WEBINAR on 3rd November, 2015 in PDPU. The lecture was delivered by Mr. Enrique Morales, currently an associate in SGS Horizon Company, located in Hague, Netherlands. He holds two M.Sc degree from Stanford University in Petroleum Engineering and Operations Research and a B.Sc degree in Petroleum Engineering from the University of Tulsa. The lecture was mainly focused on the trending topics as Petroleum Resource Management System (PRMS) and Resource Classification. The Petroleum Resources Management System (PRMS) is used by oil and gas companies in determining their reserves and serves as the primary basis for reporting rules established by the United States Securities and Exchange Commission. There was a discussion on both Conventional as well as Non-Conventional resources, Undeveloped Reserves and the five year time limit. After completion of the lecture, Q & A session was organized in which students participated and received satisfactory answers .



HR Practises in Oil and Gas Industry

- Lecture by Mark Salkheld , CEO , PSAC , CANADA.

With an aim to learn about the problems faced by the industry in this present scenario, a lecture was organized by SPE PDPU Student Chapter, as a part of SPE WEEK 1.0 on November 25th, 2015. Mr. Mark Salkeld, President and CEO, Petroleum services and association of Canada (PSAC) talked on “HR practices in Oil and Gas industry” with the audience including not only students and teachers but also industry personnel, who came specially to attend this informative session. He provided a deep insight about the Human resources in Canada and their engagement with the petroleum industry in the country. The talk gave a comprehensive idea about the labour demand and supply challenges faced by Canada, and what were the solutions, they came up with, to tackle those challenges. He talked in quite detail about, how to compa-nies are finding success, by application of new approaches, to manage the talent. He also emphasized upon the point of industry-academia collaboration, for giving a better shape to the raw talent in the students. The lecture was followed by a brief question and answer session, where number of questions were raised by stu-dents, as well as faculties and the industry personnel to which, Mr. Salkeld answered, to the best of his capability.

WELL-LOG COMPETITION

Many Educational Institutes lag in providing the application based knowledge to the students. With this aim, the SPE PDPU Student Chapter organized a Well Log Interpretation Competition on 2nd December, 2015. It intended to allow participants to utilize basic principles of a well logging in deciphering petro physical properties of formation such as porosity, formation factor, and saturation and hydrocarbon type for, essentially clean reservoirs. The competition of this kind proved to be highly productive from the perspective that participants gained realistic experience by working in teams on a comprehensive log interpretation exercise. Prior to the event, a screening quiz was conducted, in which the students had to participate in order to qualify for the final round of the well log interpretation competition. The event was organized by the Dr. Anirbid Sircar, Director-SPT. The final round of exegesis was organized by Mr. Rakesh Kumar and Mr. P. P. DEV from ONGC. The event commenced with an expert lecture by Mr. P. P. Dev. He provided very detailed information and discussed the procedure of well logging and how it is interpreted. Later, teams were provided with the log sheets where they had to make a detailed record of the geologic formations penetrated by the borehole. Here, the theoretical reservoir conditions of the borehole were provided to the students. Students had to put a lot of stuff out of their mind as it was a real life situation that was faced in oil and gas industry. Judges had to put a lot of effort in making the accurate graph that was plotted. Based on the accuracy of the graph that was plotted by the students finally the winners were announced.

SPT ALUMNI MEET

With the motive to stay connected with our alumni, interact with them for their precious words about various decisions to be taken in the coming years and for career guidance ‘School of Petroleum Technology (SPT)’ hosted the SPT ALUMNI-MEET 2016 on 23rd January, 2016. This session was moderated by Dr. Anirbid Sircar, Director-SPT and later on continued by our beloved alumni’s working in various companies all around the globe. This program was all about building a bond between the alumni and the students of the university. Each alumni would be allotted two final year students and each of these final year students will have some pre-final year students and the same process will be continued to the sophomore. Thus a strong relation can be built with the alumni’s so that it will be helpful for many students in grabbing some good opportunities in the industry. Some of the panellists were alumni’s from various industries like Weatherford, Al Mansoori , Baker Huges etc.



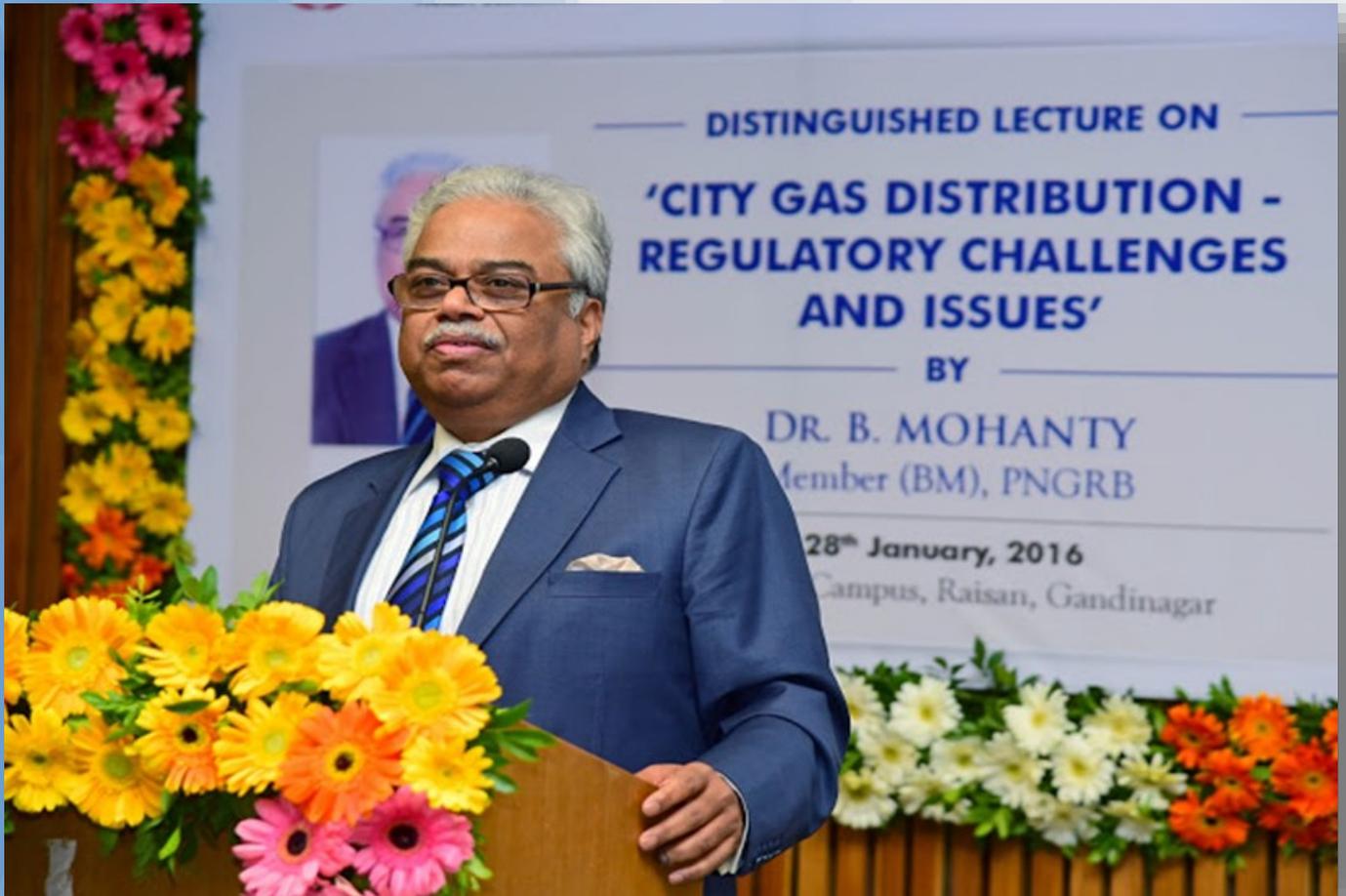


An Alumni speaking



A group photo of the alumni's with Dr. Anirbid Sircar, Director-SPT

Distinguished Lecture by Dr. Basudev Mohanty



Dr. Basudev Mohanty is a member (BM) of "Petroleum and Natural Gas Regulation Board (PNGRB)". He has worked as senior advisor (Additional Secretary) in the ministry of Petroleum and Natural Gas, Government of India.

SPE PDPU student chapter, School of Petroleum Technology (SPT) and School of Petroleum Management (SPM) in association with Gujarat Gas had successfully organized a distinguished lecture on **“City Gas Distribution - Regulatory Challenges and Issues”** which was delivered by Dr. Basudev Mohanty. This lecture took place on 28th January, 2016. The lecture provided a deep insight on the present day regulation that is undertaken by both the government and PNGRB. There are a lot differences in the activities undertaken by the both sectors thus leading to the regulation of the monopoly. He has also provided the students with some thoughts like ‘thinking of any process makes the man more successful’. The importance of the monopoly was understood by the students. Many faculty members had cleared their doubts and shared their thoughts with him. Overall the expert lecture turned out to be a grand success thus making the students more aware, confident on making their decisions.



HOW TO WRITE AN ABSTRACT & A RESEARCH PAPER

A lecture on “How to Write an Abstract & a Research Paper” by Dr. Bhawanisingh G Desai was organized by SEG-SPG-EAGE PDPU Student Chapter on 3rd February, 2016. Dr. Desai is a Paleontologist and a renowned faculty at the School of Petroleum Technology, Pandit Deendayal Petroleum University, since the birth of the institute in 2007. He has written most cited research papers at national as well as international levels. The objective of this lecture was to bring awareness among the students about an abstract and a research paper, the difference between them and steps to be undertaken in writing either of them. The lecture had attendees from undergraduate to doctorate level and also from various schools like School of Petroleum Technology, School of Technology, School of Liberal Studies and School of Solar Technology. Dr. Desai discussed about writing an abstract and a research paper, the standard procedure to be followed in appropriate order and also few things about research methodology. After that the students were given a chance to question and their doubts were cleared satisfactorily. Basically this was just the beginning – the first session, the students demanded for next sessions which would make them understand the topic at an advanced level and the student chapter is going to do that soon. The event received some good appreciation and hence was a grand success.



DISTINGUISHED LECTURE ON FORENSIC DATA PROCESSING

The role of Petro physics in seismic interpretation has taken a major leap forward in the past ten years, resulting from important advances in seismic data processing techniques, particularly seismic inversion, attribute analysis, and amplitude versus offset methods that showed we could estimate reservoir properties from such data. To deliver the basic idea of FORENSIC DATA PROCESSING, SEG-SPG-EAGE PDPU student chapter organized a Distinguished Lecture on Seismic Data and Forensic Data Processing on 5th February, 2016. The lecture was delivered by Dr. Joe Dellinger, presently working in British Petroleum, Houston, Texas, USA. In his career he has specialized in Anisotropy, multicomponent algorithms and processing, and most recently “looking for useful information in data that would normally be ignored” i.e. “Forensic Data Processing”. The lecture was mainly focused on the information that is normally ignored from the Seismic Data. There was a discussion on the seismic reflections and how to analyze them through the use of different arrays. He uniquely explained how noises are better than Signals in analyzing the Seismic data. He also described that apart from an improvement of the signal-to-noise ratio due to the simple summation of the individual array recordings, seismological arrays can be used in many different ways to study the fine scale structure of the Earth's interior.



LECTURE ON WORK OVER AND COMPLETION

The term **Workover** is used to refer to any kind of oil well intervention involving invasive techniques, such as wireline, coiled tubing or snubbing. More specifically though, it will refer to the expensive process of pulling and replacing a completion. Workovers rank among the most complex, difficult and expensive types of well work. They are only performed if the completion of a well is terminally unsuitable for the job at hand. To give the basic idea and how these activities are practiced in the industry, SEG-SPG-EAGE PDPU student chapter organized a distinguished lecture on 'Workover and Completion' on 11th February, 2016 which was delivered by Mr. Nikhil Gandhi, one of our Alumni. He is presently working as Associate Technical Advisor for Project Management in Workover and Completions, Halliburton, Gurgaon, India. The lecture was mainly focused on the workover and completion job in drilling. The students were taught about Progressing Cavity Pump (PCP) systems and the importance of artificial lift techniques in the Petroleum Industry, and different range of challenging lift situations (e.g., heavy oil, high sand production, and gassy wells, directional or horizontal wells). He shared his experiences and talked about different situations which he had faced during his job and their primitive solutions.



WORKSHOP ON GRAVITY SURVEY

A workshop on "Gravity Survey" was organized by American Association of Petroleum Geologists (AAPG), PDPU student chapter. This workshop was held on 20th February, 2016 and conducted by Dr. Anirbid Sircar, Director-SPT and Team CEGE- Mr. MananShah, Mr. Dwijen Vaidya, Ms. Anjali Choudhary, Ms. Shubhra Dhale and Ms. Vaishali Sharma. This workshop was specially organized for the students pursuing 2nd year in petroleum engineering and was conducted in three sessions: the first session included the theoretical aspects of gravity survey which were briefed by Dr. Anirbid Sircar. The second session included the data acquisition which was taught by the team CEGE in which the data was acquired using the gravimeter in the field. The last session was data contouring (done after applying corrections) and mapping of a horizon.





DISTINGUISHED LECTURE ON "OIL AND GAS INDUSTRY -FACTS, CRISIS AND OPPORTUNITY"

The lecture was delivered by Mr. Suresh Kumar who is currently working as a "Principal - Oil and Gas Consulting" in PROGROWTH CONSULTING PVT LTD. SEG PDPU Student chapter in association with SPE, AAPG, Petrotech, School of Petroleum Technology and School of Petroleum Management (SPM) had successfully organized this distinguished lecture on 24th February, 2016. Mr. Suresh Kumar intended his practical application and technical knowledge and had precisely discussed the topic of "OIL & GAS INDUSTRY—FACTS, CRISIS AND OPPRTUNITY" with the young minds of the university.

Brief points covered by Mr. Suresh Kumar were Oil and Gas resource classification, Reserves - Uncertainty, Ultimate Economic Recovery & Cash Flow, US Shale oil resilience, and the opportunities in the present oil and gas scenario. The conclusion of this lecture is that short term oil and gas supply is higher than demand. While the stakeholders will protect and sustain the business inter-est, excess storage and shale oil may dampen oil price initiative. Oil price to stabilize above break even cost around 50-60 \$/bbl. Oil and gas industry has to restructure to new paradigm. India has to find and build resources to meet the challenge which involves the various resources, technology and importantly skilled talent base. Startup incubation & research centre for Human Resource & development (HRD). The young generation has a major role to play in this turn around.



E-CONCLAVE

The E-CONCLAVE (paper presentation competition) was organized by the Petrotech PDPU Student Chapter on 27th February, 2016 where students of PDPU presented their research/review papers. The conclave began at 10:00 am and was conducted in two sessions: 9 papers were presented in the first session and 3 in the second session. The judges were Mr. R. Balasubramanian (Faculty, PDPU) and Ms. Vaishali Sharma (Faculty, PDPU). The papers ranged on diverse topics from using nano-technology in reservoir mapping to the tapping potential of the technology. The participants were judged on basis of content, presentation skills and viva-voice and some brainstorming application based questions were asked by the judges and also the audience were given a chance of asking questions to the participants. At the end, the judges gave some valuable do's and don't s on paper presentation and the results were declared with the winners being given cash prizes. Thus, the conclave proved to be a great learning experience for the participants and audience alike.

The winners of the E-CONCLAVE are as follows:

First Prize: Vajpayee Mudit and Chanchlani Kuldeep (3rd year)

Second Prize: Agrawal Harsh and Patel Pratik kumar (2nd year)

Third Prize: Hadiya Chetan Kumar, Hadiya Pradipkumar and Bhuva Narendra (3rd year)



Participants with the judges

OIL & GAS TRAINING

In the current scenario of Petroleum Industry, many students who are getting their graduations are in a confused state about their future. So to help them in such a kind of scenario of declining oil prices, SEG-SPG-EAGE PDCU Student Chapter came forward to organize an interactive session with Integrated Process Oil and Gas Technologies, Abu Dhabi on 8th April, 2016. This session was delivered by Mr. Amol Kaushik on Oil and Gas Training Programs offered by their services in UAE. This company has been in this field since 2006 delivering an excellent approach to the students who are willing to work abroad in the Petroleum field. They also gave the basic idea about the qualifications that fresh graduates should have to get a job abroad and to survive in these kind of critical situations. The basic understanding among students was developed by the easily relatable and humorous examples. This played a key role in giving the students a self-reflection about where they stand in the industry and a few technical questions asked by Amol Sir were a perfect addition to it. The content of the session was an amazing blend of technical as well as non-technical talks which held the audience tight in their seats. Overall the session gave a fair exposure of the chance of international training and its importance.



CAT vs GRE – An Engineer’s Dilemma

Today’s budding engineers are very much confused about their future after graduation. Many students aim to go abroad for their further studies and some want to continue their education in India itself. So to provide them some basic idea, on how to go through these courses, SEG-SPG-EAGE PDPU student chapter in collaboration with ‘Endeavour Careers’ organized an interactive career counseling session on April 12th, 2016. The main topic of the session was “CAT vs GRE – An Engineer’s Dilemma”, and was hosted by Mr. Sazeal Shah, the Centre Manager of Endeavour Careers, Gandhinagar (Guj.), India. Mr. Shah who has more than 15 years of experience, rightly analyzed the pros and cons of both the streams and enlightened the students with his interesting session. In his discussion, he also focused on various competitive examinations that students can give after their graduation and pursue the respective courses in some of the prestigious institutes across India and abroad and . Being a good orator, he successfully held the attention of the audience throughout these session and passed on his message in the best possible way. Session was greatly cheered and well responded by the attendees.



INTRODUCTION TO RISK SOFTWARE

Since the major uncertainties are related to ‘Volume of Oil & Gas in Place’ and the ‘Economics’ during the exploratory phase of Oil & Gas, many software’s are being developed for a better result and outcome. One of the best way, the industry is practicing is ‘RISK Management’. A workshop on ‘Introduction to @RISK SOFTWARE’ was organized by American Association of Petroleum Geologists (AAPG), PDPU student chapter on 21st April, 2016 and was delivered by Dr. Anirbid Sircar, Director-SPT who has an excellent knowledge in Hydro-Carbon Exploration. The main aim of the event was to introduce the uses of @Risk software and giving the students, a basic idea how this software is useful in petroleum industry. RISK Management has become an important component of software development organization and gaining more importance in this multiple technological generation. Software RISK is viewed as a combination of Robustness, Performance, Efficiency, Security and Transactional Risk propagated through out the system.



Dr. Anirbid Sircar, Director-SPT giving a brief idea about RISK software to the students.

SPE WEEK 2.0

As a part of SPE WEEK 2.0, SPE PDPU student chapter in association with Reliance Industries had organized "Industry to Academia Building Program" which was a two days programme. On the first day of the week, Reliance Workshop emphasized mainly on the drilling mud. Reliance Industries has always been giving importance to the drilling fluids in the explorations and exploitations and are using the latest variants that are involved in preparing a mud. The industrialists and the dignitaries explained about the various types of the drilling mud and their uses and elaborately discussed the problems in the drilling industry. They had also explained about the real life situations, they have experienced in the Industry and the methods to solve them.

On the second day of the workshop, two sessions were organized by Reliance Industries. The first session of the day was delivered specifically on the technologies that are involved in shale oil and shale gas production. Hydro-fracturing developments taking place in the present day scenarios were clearly explained and the effects of the shale production mainly focusing the U.S state production was enumerated. The second session emphasized on the most important aspect of the industry i.e. "Health, safety and environment". The prominence of HSE is continuously increasing and its importance should be understood by all the industrialists. Reliance is one of those industries which pays a special attention to HSE. The future plans of the company were discussed and students were asked to devote some ideas and new discoveries that could help the company to overcome the problems faced even in the pre-sent and the future destinations.

Career building Workshop by Renaissance

Education is very important for any individual. Knowledge has empowered in the students through education. But along with the knowledge, career development plays a vital role. Knowledge and career development go hand in hand. With this perspective, SPE PDPU student chapter had organized a "Career Building Workshop" in association with Renaissance. The program started with an aptitude test which included 30 questions and lasted for 30 minutes. A discussion was done by the authorized people about the importance of English literature and some of the confusing terms in the literature were discussed. Later from the aptitude test, top 30 students were selected and were qualified for the further round of group discussion. In the group discussion, each group had a mentor. The mentor gave a general topic related to the present social issue etc. And a group discussion was done on those topics. Students had varied ideas, they debated and supported their views. The mentors suggested the strengths and the weaknesses of each individual and had suggested them to make certain changes in their delivery. Further the students who had a good group discussion were further qualified for the personal interviews. Later the personal interviews were carried on.

The main aim of this event was to provide an idea that what an interview process all about. This program will provided the students to know about the drawbacks, strengths, weaknesses and they had come to know the things they need to develop. The program turned out to be quite fruitful.

PETROSPACE

SPE PDPU student chapter in association with Kaarada drilling has organized one of the most unorthodox events of the year. "PETROSPACE" is the "**National level Technical Business Plan Competition**". Many of the petroleum graduates and undergraduates have several ideas to apply it on the present industry to make many new changes in the present scenario . So , in order to bring out these ideas from the young generation, SPE PDPU student chapter has organized this rivalry to fulfill the dreams of the young minds and to make a clash of the opinions / ideas.

There were a total of four rounds , from which the first round was successfully completed. The first round dealt with the basic introduction of the idea and the team who is working on that idea which had to be described in a 4-minute short video. Students were judged on the dynamics of the team as to why and how did they decide to team up and the basic idea of the plan. The plans were realistic and many of those could be executed eventually. There were many ideas related to PE software, Big Data Analytic and Consulting model that are mainly helpful in this industry.

Memorandum of Understanding

As an educational institute, it's always the soul aim to provide the students an opportunity for developing their technical as well as personal skills. However, most of the opportunities provided are limited within the same country. In order to provide the students, an exposure of international programmes, events, competitions, social activities, an MOU has been signed between SPE PDPU Student Chapter and SPE Suez University. Both the student chapters have agreed upon a workover on various programmes like ECHO magazine, ECHO news, ORBIT magazine and also the Global Exchange Week (GEW).The students of both the chapters will have a chance to participate in the high standard conferences like PDPU SPE FEST 2016 and also the EPIC 2017.

The purpose of this MoU is obviously to build a healthy relationship between the two chapters , working out with each other and bring the members of both the universities under an umbrella. More opportunities for the students to exhibit their talents at the international level, as this mutual understanding will lead to develop their own career paths. The pace of development in both the chapters would be fastened and more transparency in each other's affairs.

Low Salinity Waterflooding is an emerging EOR technique in which water with reduced salinity is injected into a reservoir to improve oil recovery as compared with Conventional Waterflooding, in which high salinity brine or seawater are commonly used. Waterflooding performance may be affected by the salinity of the displacing water. Low salinity water induces a wettability alteration of the porous medium towards more water-wet condition, which is most favorable for pore scale oil displacement. Single Well Chemical Tracer Test (SWCTT) is an insitu method for measuring the Remaining Oil Saturation (ROS) after flooding the near wellbore region with a displacing agent (water, gas, or other EOR fluids) and the efficiency of this technique can be quantified by this test.

A literature view:

Lager Et Al in 2006 suggested that multicomponent ionic exchange between mineral surface and invading brine is the primary mechanism underlying in improved recovery with low salinity water. Multicomponent ionic exchange caused a reduction in ion binding between the crude oil and the rock surface. Injecting low salinity brine creates a wetting state more favorable to increase in oil recovery. Wettability alteration affects the microscopic distribution and flow of fluids in porous media which results in changing the residual oil saturation. However the method is still debatable, Bernard described that increased in oil recovery is caused by clay hydrations. Clay hydrations result in clay swelling and pore throat plugging from fines migration. Clay swelling decrease the pore space available to oil and water, and hence more oil is produced. By pore throat plugging, new flood channels are created thereby increasing recovery.

An experimental view:

An evidence of the success of this method that I am proposing with the illustration of the two test carried in 2014 at North African oil field.

Two SWCTT test were carried out, one with seawater and other with Low salinity water. The displacement efficiency gain associated with Low salinity water was used to define the corresponding Low salinity relative permeability curves on a sector model of the selected field. Forecast scenarios, which include the application of the LS water injection technique, were considered and its effectiveness in improving oil recovery was quantified at the reservoir scale.

Low salinity waterflooding is a good and the most efficient technique for Improving oil recovery (IOR) but the exact method proposed till now is not much pronounced and the method is still debatable!!

An Article by:

Shashank Saurav, SPT_14



ONGC to drill 17 exploratory wells for shale gas:

ONGC Limited is planning to explore as many as 17 shale gas and oil wells in both east and west coasts with an investment of around Rs700 crore. According to the minutes, ONGC sought permission for drilling 11 exploratory wells for shale oil/shale gas in Cambay basin at Mehsana, Ahmedabad and Bharuch districts of Gujarat, one well in Cauvery basin at Nagapattinam in Tamil Nadu and five wells in KG Basin at East and West Godavari districts of Andhra Pradesh. "ONGC Ltd has proposed for exploratory drilling of 11 wells for shale oil/shale gas in Cambay basin at Mehsana, Ahmedabad, Bharuch in Gujarat. Total cost of project is Rs366 crores," according to the minutes of the meeting. The costs of the projects at KG-Basin and Cauvery are Rs217 crore.

Reliance buys Iranian oil after six-year hiatus:

Reliance Industries has bought crude oil from Iran after a 6-year break and is looking to strike a long-term fixed quantity deal, post lifting of sanctions. Reliance, which operates the world's biggest refining complex at Jamnagar in Gujarat, is looking at quickly ramping up purchases to the earlier levels of about 5 million tones a year. "Re-established relationship with Iran, sourced crude oil post lifting of sanctions," the company said in an investor presentation. Its joint CFO V Srikanth, in a press briefing in Mumbai on Friday, said the company is engaged in talks with Iran for bigger supplies, including a term or annual fixed quantity contract.

Engineers India gains on contract with Bangladesh Petroleum Corporation:

Shares of Engineers India were up 1.3% at Rs183 on the Bombay Stock Exchange after the company said it has entered into a contract with Bangladesh Petroleum Corporation (BPC). The company in a release said that it will provide project management consultancy for installation of ERL Unit-2 in Chittagong, Bangladesh for US\$ 16.54 million. BPC will implement the ERL Unit-2 project at a cost of US \$1.7 billion over the next three years. The project will be the largest ever single consultancy assignment for EIL in Bangladesh, the release added.

Scientists find a massive coral reef just chilling in the Amazon:

Coral reefs typically like pristine clear conditions and the waters of the Amazon delta are muddy with the silt deposited by the river in the Atlantic Ocean. A reef has been found by the scientists which ranges from 30 to 120 meter's deep, and is 1,000 kilometer's long, covering an area of 9,300 square kilometer's – about the size of the island of Cyprus, stretching from French Guiana to Brazil's Maranhao state. a total of 80 exploratory blocks have been acquired for oil drilling in the study region, 20 of which are already producing,”



**Test Your
Mind**

QUIZ

1. Most of the wells which GSPC is drilling in the KG basin are ____ wells.

- (a) HPLT
- (b) LPHT
- (c) HPHT

2. Mineral turpentine oil (MTO) is mainly used in the _____ industry as a solvent or thinner.

- (a) Petroleum
- (b) Paint
- (c) Mud

3. In the process of holding an angle while directional drilling, at how much distance the stabilizers are kept apart from each other?

- (a) 7 m
- (b) 9 m
- (c) 15 m

4. World's 2nd Largest Oil refining country.

- (a) China
- (b) Russia
- (c) USA
- (d) India

5. Recently which Indian company has drilled its first exploratory well in Cambay basin block?

- (a) ONGC
- (b) GSPC
- (c) OIL
- (d) GAIL

6. These are used to suspend pipe in the rotary table when making or breaking a connection.

- (a) Slips
- (b) Tongs
- (c) Rollers
- (d) Rotary table.

7. The weight bar used in slick line operations to overcome the effects of wellhead pressure and friction at the surface seal where the wire enters the wellbore.

- (a) Tongs
- (b) Tool Joint
- (c) Stem

8. Gazprom to sell 4 LNG vessels to this Indian company.

- (a) Petronet LNG
- (b) GSPC LNG
- (c) GAIL

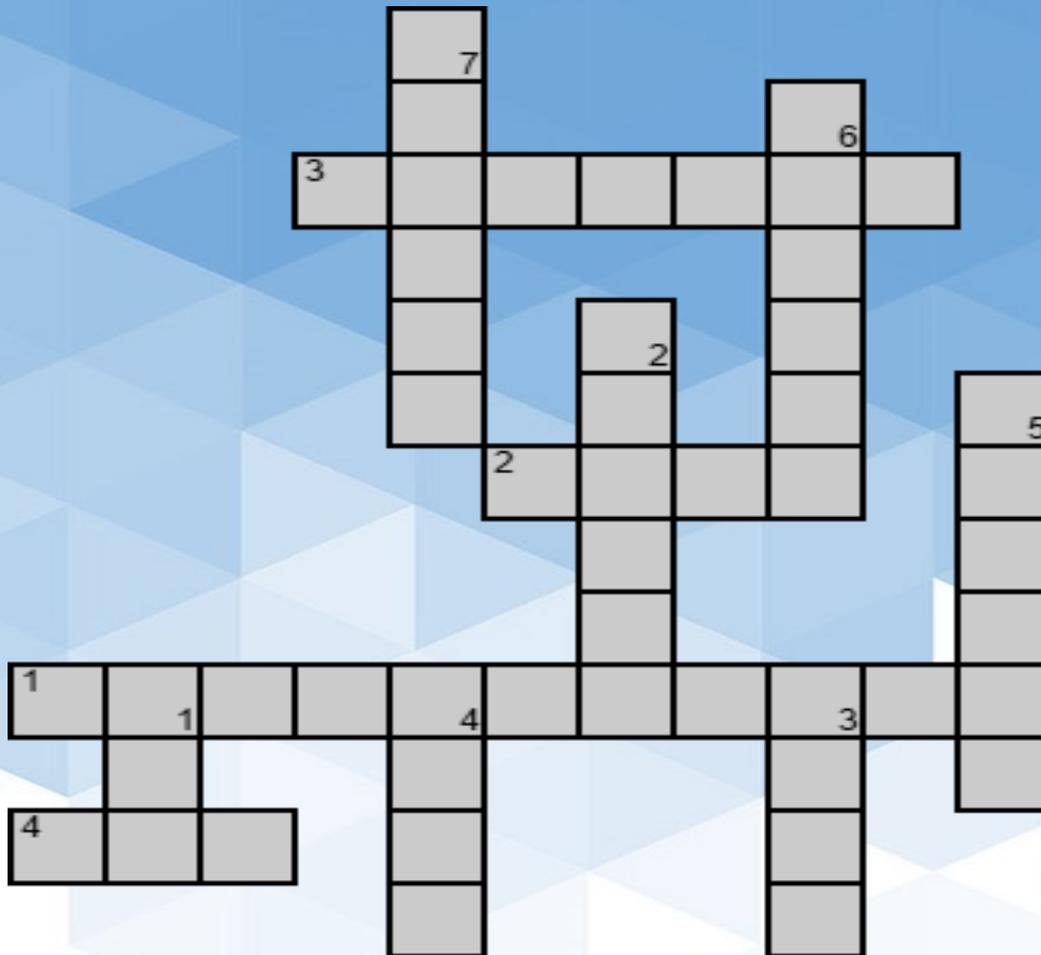
9. When there is a sudden increase in the level of mud in the pits. This leads to a serious problem and the well should be closed.

- (a) Blowout
- (b) Kick
- (c) Stuck-pipe

10. This is a short casing string which is suspended from the inside of the previous casing string and has an outer diameter of 7 inches.

- (a) Roller
- (b) Liner
- (c) Crossover

CROSSWORD



Across

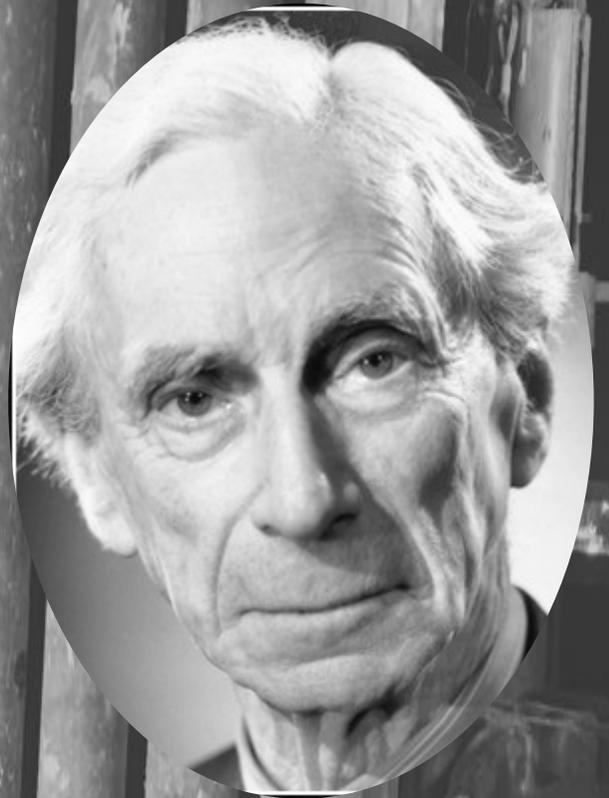
1. Aviation gasoline is usually polymer gasoline or alkylated gasoline having an Octane Number greater than 100 usually expressed as the ___ number.
2. Petronet LNG Ltd is an joint venture company promoted by the GAIL, ONGC, IOCL & _____.
3. In the modern method of electrical desalting Crude oil mixture is preheated at more than ___ °C to removes water and the dissolved salts simultaneously from crude oil.
4. These bits use small discs of synthetic diamond to provide the scraping cutting surface so that they are non- sensitive to failure along cleavage planes.

Down

1. This formulae $(10 \cdot APL)/TVD+MW$ generally refers to _____.
2. These muds are used where requirement of soluble Ca^{2+} is more than 200 ppm.
3. Magnetic survey instruments (MWD / Magnetic Single Shots / Multi Shots) run in the hole need to be located in a _____ of sufficient length to allow the measurement of the earth's magnetic field without magnetic interference
4. Reliance Industries and BG (British Gas) Group has agreed to hand drilling infrastructure from an abandoned gas field to which Indian company.
5. An abrupt change in hole deviation (inclination and/or azimuth) results in troublesome situation which is commonly referred to as a _____.
6. Motor spirit is also known as ___ in INDIA.
7. A sucker rod pump unit is designated by C-228D-200-74. Here, 'D' represents _____ reduction gear box.

A smell of petroleum prevails throughout.

- Bertrand Russel



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