

# Tyumen 2017

Tyumen, Russia  
27 - 31 March 2017

ISBN: 978-1-5108-3931-1

**Printed from e-media with permission by:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571



**Some format issues inherent in the e-media version may also appear in this print version.**

Copyright© (2017) by the European Association of Geoscientists & Engineers (EAGE)  
All rights reserved.

Printed by Curran Associates, Inc. (2017)

For permission requests, please contact by the European Association of Geoscientists & Engineers (EAGE)  
at the address below.

European Association of Geoscientists & Engineers (EAGE)  
PO Box 59  
3990 DB Houten  
The Netherlands

Phone: +31 88 995 5055  
Fax: +31 30 634 3524

[eage@eage.org](mailto:eage@eage.org)

**Additional copies of this publication are available from:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571 USA  
Phone: 845-758-0400  
Fax: 845-758-2633  
Email: [curran@proceedings.com](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

# TABLE OF CONTENTS

|  |    |
|--|----|
| <b>C01: LABORATORY STUDIES OF POLYMER SYSTEMS USED IN THE WATER SHUT-OFF TECHNOLOGIES FOR SPECIFIC GEOLOGICAL CONDITIONS OF DEVELOPMENT OBJECTS</b> .....      | 1  |
| <i>N.N. Barkovsky, O.I. Yakimov, A.M. Amirov, O.A. Morozyuk</i>  |    |
| <b>C02: THE MODEL OF THE MICROSTRUCTURE OF A CLASTIC OIL AND GAS RESERVOIR ROCK</b> .....  | 6  |
| <i>V. Berezovsky, I. Belozarov, M. Gubaydullin, A. Yur'ev</i>  |    |
| <b>C03: EXPRESS METHOD OF HYDROCARBONS GROUP ANALYSIS AND RHEOLOGICAL PROPERTIES EVALUATION BY NMR RELAXOMETRY</b> .....                                       | 11 |
| <i>A.K. Turakhanov, E.A. Fursenko, V.N. Glinskikh, M.Y. Shumskayte</i>   |    |
| <b>C04: COMPREHENSIVE EVALUATION OF THE TECHNOLOGIES OF ACID TREATMENT IN THE LABORATORY</b> .....   | 16 |
| <i>A.M. Amirov, N.N. Barkovsky, O.I. Yakimov</i>   |    |
| <b>C05: INVESTIGATION OF FORMATION DAMAGE OF RESERVOIR ROCKS DUE TO INORGANIC SALT PRECIPITATION</b> .....   | 21 |
| <i>A. Khormali</i>   |    |
| <b>C07: THE EFFECTIVENESS OF ACID TREATMENTS BOTTOMHOLE FORMATION ZONE IN CLASTIC RESERVOIRS OF PERM KRAI</b> .....  | 26 |
| <i>V.V. Plotnikov, P.N. Rahachev, N.N. Mikhailov</i>   |    |
| <b>D01: CGG VOSTOK: UP-TO-DATE INTERPRETATION TECHNIQUES</b> .....   | 31 |
| <i>S.N. Ilyin, M. Romanenko</i>  |    |
| <b>D02: CGG VOSTOK: IMPLEMENTATION OF LATEST PROCESSING TECHNOLOGIES</b> .....   | 36 |
| <i>K.Y. Kudryavtsev</i>  |    |
| <b>D03: A LAYER-BASED VELOCITY MODEL BUILDING: POSSIBILITIES AND LIMITATIONS</b> .....   | 40 |
| <i>R.G. Anisimov, R.T. Davletkhanov, S.L. Langman, O.A. Silaenkov, D.B. Finikov</i>  |    |
| <b>G02: USE OF GEOMECHANICAL MODELING FOR WELL DRILLING IN THE FIELDS OF LLC "LUKOIL-WESTERN SIBERIA"</b> .....  | 45 |
| <i>D.V. Malyutin, D.I. Bakirov, E.V. Babushkin, D.S. Svyatuhov</i>   |    |
| <b>G03: SHALLOW DEPTH SEISMICITY AND STRESS STATE OF SAKHALIN EARTH CRUST RELATION BASED ON DEEP BOREHOLE LOGGING DATA</b> .....                               | 50 |
| <i>T. Voronina, L. Bogomolov, A. Zakupin, P. Kamenev</i>   |    |
| <b>G04: BUILDING SEISMICALLY GUIDED INTEGRATED HYDRODINAMIC AND GEOMECHANIC MODEL BASED ON THE EFFECTIVE MODEL OF THE MEDIUM</b> .....                         | 55 |
| <i>S.E. Kopunov, S.A. Tikhotskiy, I.O. Bayuk</i>   |    |
| <b>G05: BRAZILIAN TEST AND STATIC STRENGTH</b> .....   | 59 |
| <i>V.A. Vavilin</i>  |    |
| <b>G06: EARTH'S CRUST USING LOG DATA WITH UNKNOWN REGIONAL STRESS REGIME</b> .....   | 64 |
| <i>N.V. Dubinya, K.A. Ezhov</i>  |    |
| <b>G07: COMPREHENSIVE ENGINEERING APPROACH: GEOMECHANICS, GEOSTEERING AND PETROPHYSICS APPLICATION WHILE PLANNING AND EXECUTION OF WELL CONSTRUCTION</b> ..... | 69 |
| <i>A.E. Sobolev, Y. Petrakov</i>   |    |
| <b>G08: DIFFERENTIATED APPROACH GETTING RELATIONS FF – POROSITY AND RI – WATER SATURATION DEPENDING ON ROCK PROPERTIES AND STRUCTURE OF PORE SPACE</b> .....   | 72 |
| <i>N.A. Popov, D. Glushkov</i>   |    |
| <b>II02: THE ADVANTAGES OF USING ZONAL GGM FOR LONG-TERM PLANNING AND MONITORING OF EXPLORATION IN THE SHAIM AREA</b> .....                                    | 77 |
| <i>A.S. Ablyazov, N.Y. Sidorov, V.A. Savenko</i>   |    |
| <b>II03: INTEGRATED INTERPRETATION OF REFLECTED AND SCATTERED WAVES IN COMPLEX GEOLOGICAL SECTION OF ANCIENT PLATFORM</b> .....                                | 82 |
| <i>E.V. Anokhina, E.V. Demidova, G.N. Erokhin, A.N. Kremlev, L.F. Zhegalina, M.N. Nazarova</i>   |    |
| <b>II04: THE ANALYSIS OF THE WAVE FIELD OF THE 3D SEISMIC, TECTONIC STRUCTURE OF THE BASEMENT AND THE VASYUGAN SERIES OF THE WESTERN SIBERIA</b> .....         | 86 |
| <i>A.V. Lyalin, I.N. Abdyrahmanova, F.S. Salimov</i>   |    |

|   |     |
|---|-----|
| <b>II05: DETAILED SEISMIC INTERPRETATION – KEY TO THE SUCCESS OF A GEOLOGICAL MODELLING</b> .....   | 92  |
| <i>N.R. Tsyganova, I. Khromova, G. Vasilevskaya</i>   |     |
| <b>II06: THE GEOLOGICAL FEATURES OF JV1-1 FORMATION AS AN EXAMPLE OF SEVERO-POKACHEVSKOE OILFIELD</b> .....   | 97  |
| <i>I.A. Peshkova, S. Lyagushov, T. Burakova, A. Sokolov</i>   |     |
| <b>II07: INTEGRATION OF ADVANCED SEISMIC INTERPRETATION WORKFLOWS WITH WELL DATA IN STUDY OF STRATIGRAPHIC TRAPS</b> .....  | 102 |
| <i>A.M. Mukhatzhanov, E.S. Solokha</i>  |     |
| <b>II08: USING OF FULL-CYCLE PROBABLISTIC PROJECT ESTIMATION WITH VALUE OF INFORMATION (VOI) APPROACH TO FORM AN EXPLORATION PROGRAM BY THE EXAMPLE OF ZAGROS BASIN FIELD</b> ..... | 107 |
| <i>M.V. Naugolnov, D.N. Peskova, D.V. Solodov, R.A. Oshmarin</i>  |     |
| <b>IN02: FRACTURE PREDICTION IN RIPHEAN RESERVOIR: CASE-STUDY FROM OIL-FIELD IN EAST SIBERIA</b> .....  | 111 |
| <i>M.Y. Romanenko, J.M. Agramakova, M.V. Shumilina</i>  |     |
| <b>IN04: AVOA INVERSION OF PP REFLECTIONS IN AZIMUTHALLY ANISOTROPIC MEDIA USING NONLINEAR OPTIMIZATION</b> .....   | 116 |
| <i>P.A. Lykhin, T.V. Nefedkina</i>  |     |
| <b>IN05: CASE STUDY OF DETAILED INTERPRETATION OF SEISMIC DATA THAT SIGNIFICANTLY COMPLICATED BY UNWANTED SIGNALS USING LIMITED OFFSET RANGES</b> .....                             | 121 |
| <i>D.N. Myasoedov, O.M. Myatchin, A.S. Fedechkina</i>   |     |
| <b>IN06: STOCHASTIC INVERSION AS A TOOL INCREASING DETAIL LEVEL AND CONFIDENCE OF PREDICTING RESERVOIR PROPERTIES IN INTERWELL SPACE</b> .....                                      | 126 |
| <i>I.M. Khamitullin, A.V. Novokreshin, Y.V. Shilov, A.Y. Nikitin</i>  |     |
| <b>IN07: FEATURES OF REFLECTION AMPLITUDES IN THE RAY APPROXIMATION FOR ANISOTROPIC MEDIA WITH DIFFERENT TYPES OF SYMMETRY</b> .....  | 131 |
| <i>O.A. Littau, A. Novokreshin, D. Vishnevskiy, V. Lisitsa</i>  |     |
| <b>PII01: THE FORECAST OF SAND BODIES DISTRIBUTION IN CLINIFORMS OF THE WESTERN SIBERIA USING SEQUENCE STRATIGRAPHY</b> .....   | 136 |
| <i>A.V. Khitrenko, M.A. Lisicina</i>  |     |
| <b>PII03: DEFORMATION FEATURES OF COMPLEXLY STRUCTURED HETEROGENETIC BALANCED FRACTURED/POROUS RESERVOIRS OF THE CIS-URAL REGION</b> .....  | 142 |
| <i>V.I. Popkov, V.V. Gusev, A.A. Pozdeev</i>  |     |
| <b>PS01: EXPERIENCE OF ACCOUNTING STATICS ACCORDING WITH HIGH-PRECISION GRAVITY RESEARCH</b> .....  | 147 |
| <i>O.L. Badmaeva, A.V. Shargorodsky</i>   |     |
| <b>PS02: APPLICATION OF PARTIAL COMMON REFLECTION SURFACE STACK TO NOISY DATA PROCESSING</b> .....  | 151 |
| <i>R.H. Liu, X.D. Sun</i>   |     |
| <b>PS03: AREAS OF ABNORMAL STRUCTURE OF THE BAZHENOV FORMATION IN THE MIDDLE OB AS A RESULT OF NON-COMPENSATED SEDIMENTATION</b> .....  | 156 |
| <i>V.A. Zavyalov</i>  |     |
| <b>PS04: TO THE PROBLEM OF ACCOUNTING FOR THE INFLUENCE OF SURFACE AND DEEP INHOMOGENEITIES OF EASTERN SIBERIA (NEPSKI ARCH)</b> .....  | 160 |
| <i>V.A. Zavyalov</i>  |     |
| <b>PS05: AGELESS VALUE OF GEOLOGICAL AND GEOPHYSICAL DATA</b> .....   | 164 |
| <i>S.M. Kiselev, I. Gorbachev</i>   |     |
| <b>PW02: HIGH-PERFORMANCE COMPUTING ON GPUS FOR BOREHOLE ELECTRICAL LOGGING PROBLEMS</b> .....  | 168 |
| <i>V.N. Glinskikh, A.R. Dudaev, O.V. Nechaev</i>  |     |
| <b>PW03: THE RESULTS OF EXPERIMENTAL RESEARCH OF THE EFFECT OF INORGANIC ACIDS ON ZEOLITE OF COLLECTORS OF BOLSHEKHETSKAYA DEPRESSION</b> .....                                     | 173 |
| <i>Y.V. Titov, A. Khalikova, N. Cherepanova, N. Kozhevnikova</i>  |     |
| <b>PW04: BEHAVIOR FEATURES OF RESERVOIR PROPERTIES OF JURASSIC ROCKS IN PRIURALS KAYA PETROLEUM REGION</b> .....  | 177 |
| <i>P.N. Strakhov, O.A. Bogdanov, A.B. Sapoghnikov, P.V. Karabanov, O.V. Kostenko, K.V. Musikhin, A.O. Shuvaev</i>   |     |
| <b>PW06: INTERPRETATION OF LOG DATA IN THIN-LAYERED BED OF CLASTIC SEDIMENTS IN WESTERN SIBERIA</b> .....   | 180 |
| <i>A.A. Radchenko</i>   |     |

|  |            |
|--|------------|
| <b>RG01: STUDY OF CHANGES OF RESERVOIR TEMPERATURES IN PLAN AND SECTION OF YANAO .....</b>   | <b>186</b> |
| <i>P.A. Gorbunov, S.V. Vorobyev</i>  |            |
| <b>RG02: TECTONIC STRUCTURE OF THE CENTRAL PART OF THE BARENTS SEA SHELF (FROM 2D CDP REFLECTION DATA) .....</b>   | <b>191</b> |
| <i>Y.A. Vasilyeva, I.A. Rusak</i>  |            |
| <b>RG03: PROSPECTS FOR OIL AND GAS POTENTIAL PREVERKHNOYAN FOREDEEP.....</b>   | <b>196</b> |
| <i>L.F. Naidenov</i>   |            |
| <b>RG04: BAZHENOV ABNORMAL SEQUENCES: GEOMECHANIC AND PALEOGEOGRAPHIC CONDITION FOR SEDIMENT'S GAS HYDRATE CEMENTATION.....</b>                                  | <b>201</b> |
| <i>V.F. Grishkevich</i>  |            |
| <b>RG05: PRIMARY FACTORS AFFECTING THE TYPE AND INTENSITY OF THE SECONDARY ALTERATIONS OF RESERVOIR ROCKS .....</b>  | <b>206</b> |
| <i>A.V. Podnebesnykh, V.P. Ovchinnikov, M.G. Petrov, V.V. Ishmurzin</i>  |            |
| <b>RG07: SPATIAL CORRELATION OF GAS FIELDS NIZHNEANGARSK PETROLEUM DISTRICT WITH THE DEFORMATION ANOMALIES OF THE GRAVITATIONAL FIELD .....</b>                  | <b>211</b> |
| <i>S.M. Makeev</i>   |            |
| <b>RG08: THE RESULTS OF THE RESEARCH ASSESSMENT PALEOTEKTONIC OIL DEPOSITS ON THE EXAMPLE FEATURING DEPOSITS OF WESTERN SIBERIA .....</b>                        | <b>216</b> |
| <i>A.B. Smetanin, S. Lats, E. Shchergina, V. Shchergin, R. Valeev</i>  |            |
| <b>RG09: THE BORDERS OF THE WEST SIBERIAN OIL AND GAS PROVINCE.....</b>  | <b>222</b> |
| <i>V.A. Baldin, N.Z. Munasipov</i>   |            |
| <b>RG10: INVERSION RING MESOZOIC STRUCTURES IN THE NORTH-EAST OF WESTERN SIBERIA.....</b>  | <b>227</b> |
| <i>A. Zhukov, I.N. Nizamytdnova</i>  |            |
| <b>RG11: SEISMOGEOLOGICAL INTERPRETATION OF FRINGE ZONES OF THE LOWER-MIDDLE JURASSIC DEPOSITS WITHIN THE SOUTH TAIMYR TECTONIC AREA .....</b>                   | <b>232</b> |
| <i>I.N. Nizamytdnova, L.B. Petrykina, A.P. Zhukov</i>  |            |
| <b>S01: NEW 4D SEISMIC MONITORING TECHNOLOGIES APPLIED DURING OILFIELD DEVELOPMENT .....</b>   | <b>237</b> |
| <i>J.K. Dobrovolskaya, V.A. Ekimenko, T.K. Morkovskaya, R.R. Nagimov</i>   |            |
| <b>S02: A SIGNIFICANT STEP TOWARD THE INTRODUCTION OF LOW-FREQUENCY VIBROSEIS IN RUSSIA .....</b>  | <b>242</b> |
| <i>N. Tellier, I.L. Dagaev, V.M. Bolbat</i>  |            |
| <b>S03: IMPROVING THE EFFICIENCY OF SEISMIC SURVEYS ON THE BASIS OF VARIOUS MODIFICATIONS OF THE ADAPTIVE TECHNOLOGY OF VIBROSEISMICS .....</b>                  | <b>247</b> |
| <i>A.P. Zhukov, V.A. Zhemchugova, I.P. Korotkov, I.A. Nekrasov</i>   |            |
| <b>S04: POSSIBILITIES OF FACTORS DECOMPOSITION IN ANALYSIS AND PROCESSING OF SEISMIC DATA .....</b>  | <b>251</b> |
| <i>G.M. Mitrofanov</i>   |            |
| <b>S05: METHODS OF ACCOUNTING FOR THE ANOMALIES IN THE UPPER PART OF THE SECTION ON THE EXAMPLE OF THE DISTRICT OF THE EASTERN SIBERIA.....</b>                  | <b>256</b> |
| <i>A.A. Pyankov</i>  |            |
| <b>S06: DETERMINATION OF SEISMIC SIGNALS PARAMETER ATTENUATION BY PRONY FILTERING.....</b>   | <b>261</b> |
| <i>G.M. Mitrofanov</i>   |            |
| <b>S07: ANISOTROPIC VELOCITY MODELS BUILDING FOR PRE-STACK DEPTH MIGRATION ASSISTED BY FULL-WAVE ACOUSTIC LOGGING MEASUREMENTS .....</b>                         | <b>266</b> |
| <i>A. Metalnikov, N. Zolotoi, D. Fedorova, A. Ereemeev</i>   |            |
| <b>S08: WHY BUILDING ADEQUATE DEPTH VELOCITY MODEL BY SEISMIC DATA IS NOT ALWAYS SUCCESSFUL?.....</b>  | <b>270</b> |
| <i>V.V. Kondrashkov, A.Y. Glagolev, I.M. Mramorova</i>   |            |
| <b>S09: IMPROVING THE SEISMIC IMAGE QUALITY WITHIN THE PRENEOGENE BASEMENT IN THE LIMITS OF THE PRODUCING OILFIELD .....</b>                                     | <b>275</b> |
| <i>D. Semin, I. Bogatyrev, T. Olneva, A. Inozemtsev, E. Kharyba</i>  |            |
| <b>S10: THE MODEL OF OBLIQUE-LAYERED MEDIA - THE RESERVE ON THE WAY TO ENHANCE THE RELIABILITY OF TWO-DIMENSIONAL SEISMIC IMAGES.....</b>                        | <b>280</b> |
| <i>V.I. Bondarev, S.M. Krylatkov</i>   |            |
| <b>S11: IMPROVING THE QUALITY OF SEISMIC IMAGE OF GEOLOGICAL ENVIRONMENT IN THE PRE-JURASSIC SECTION INTERVAL (DRAWING ON THE EXAMPLE OF WEST SIBERIA) .....</b> | <b>285</b> |
| <i>E.P. Kaygorodov, O. Kiselev, Y. Dolgikh</i>   |            |

|  |     |
|--|-----|
| <b>S12: THE SEISMIC (SHOOTING) WORKS IN THE TRANSIT AREAS OF THE NORTH OF WESTERN SIBERIA – THE EXPERIENCE AND RESEARCH PROSPECTS IN THE COMPANY NOVATEK</b> ..... | 290 |
| <i>V.I. Kuznetsov, Y.N. Dolgikh</i>  |     |
| <b>S13: CONCERNS OF SEISMIC DATA PROCESSING FOR SCATTERING WAVES SEPARATION IN ORDER TO FRACTURING FORECAST</b> .....  | 295 |
| <i>A. Voronin, S. Sergeev</i>  |     |
| <b>WL01: GEOCHEMICAL REASONS OF ORIGIN OF LOW-RESISTANCE COLLECTORS</b> .....  | 300 |
| <i>M.Y. Zubkov</i>   |     |
| <b>WL02: NEW GEOPHYSICAL TECHNOLOGY RESEARCH OF ACOUSTIC EMISSION IN THE WELL AND TO STIMULATE HYDROCARBON PRODUCTION</b> .....                                    | 305 |
| <i>V. Dryagin</i>  |     |
| <b>WL03: COUPLED ELECTROPHYSICAL AND GEOMECHANICAL MODELS OF OIL-SATURATED RESERVOIRS</b> .....  | 310 |
| <i>I.N. Yeltsov, G. Nesterova, L. Nazarov, L. Nazarova</i>   |     |
| <b>WL04: ROCK TYPING ON THE BASIS OF PORE-SCALE MODELS AND COMPLEX WELL LOG INTERPRETATION PARAMETERS</b> .....  | 315 |
| <i>P.V. Markov, S.P. Rodionov</i>  |     |
| <b>WL05: EMPIRIC COMPARISON OF RELATIONSHIPS OF SANDSTONES VELOCITY WITH THEIR POROSITY, VOLUME OF CLAY AND PRESSURE</b> .....                                     | 320 |
| <i>B.N. Enikeev</i>  |     |
| <b>WL06: FIRST IMPLEMENTATION OF RESERVOIR-SCALE MAPPING LWD TECHNOLOGY FOR LANDINGA WELL IN RUSSIA. CAN WE SPARE A PILOT HOLE?</b> .....                          | 325 |
| <i>D.D. Shabalinskaya, S.Y. Shtun, M.Y. Golenkin, A.S. Shtun, A.V. Cheprasov, V.R. Kuzakov</i>   |     |
| <b>WL08: FEATURES OF TECHNOLOGIES OF LOG INTERPRETATION IN SEISMIC PROJECTS</b> .....  | 330 |
| <i>A.A. Radchenko</i>  |     |
| <b>WL10: PRINCIPAL ASPECTS OF WORK WITH PETROPHYSICAL DATA (STANDARTIZATION, SEPARATION, INTEGRATION)</b> .....  | 336 |
| <i>V.V. Kolesov, B.N. Enikeev</i>  |     |
| <b>Author Index</b>  |     |