

OIL GEOPHYSICAL PROSPECTING

No. 1—6, 1988

CONTENTS

No. 1

- Results of processing the 2D physical model data by DMO and PSI methods *Lu Jimeng and Wang Tienan* (1)
- L_1 predictive deconvolution and its application to seismic exploration *Cheng Feng et al* (21)
- Velocity analysis using 2D slant-stack approach *Bao Jishan and Li Luming* (34)
- All-dip finite-difference wave-equation migration using wave-field continuation along upgoing wavefront *Wang Zhenhua* (55)
- The physical modeling of time field in layered medium in across borehole seismic profiling *Yu Zhenqing et al* (67)
- Seismic and geologic interpretations of mud diapir *Wang Zhiqian* (83)
- Exploration history of Pucheng multiple-trap oil-gas field *Peng Xiangsheng and Li Ming* (90)
- Acquisition and reconstruction of zero-crossing-based seismic record *Liu Yicheng* (102)
- Wavenumber-domain interpretation of areal gravimetric data, and its effect in oil exploration *Liu Xiangzhong* (110)
- DISCUSSION •
- A new method for calculating transformation function from apparent resistivity curve *Su Zhiliu* (119)
- EXPERIENCE •
- An attempt to approach geological interpretation using integrate well-logging curve analysis method *Fan Yalin* (121)
- CONTENTS OF OTHER GEOPHYSICAL JOURNALS •
- Geophysics*, Vol.52, No.9, 1987 (129)
- Geophysical Prospecting*, Vol.35, No.6, 1987 (129)
- Geophysical Prospecting for Petroleum*, Vol.26, No.3, No.4, 1987 (129)
- NEWS •
- Events of CGE, CPS in 1988 (66)
- Symposium on appraising the hydrocarbon resources in middle and small sedimentary basins in South China, Nanning (120)
- Junfeng Company performed a grand ribbon-cutting ceremony (131)
- Brief introduction of major contributors (130)

No.2

- Improvement of signal-to-noise ratio of stack section using polynomial fitting of seismic signals..... *Yu Shoupeng et al* (131)
- A new method for predicting the reflection characters of oil and gas reservoirs..... *Liu Wenlin* (140)
- Automatic interpretation of seismic micro facies using the fuzzy mathematics method..... *Guo Dongrun and G. H. F. Gardner* (153)
- The numerical solution of Lamb's problem using finite-element method and its significance to seismic exploration..... *Xu Changlian* (163)
- Tau-p transform and migration in Tau-p domain..... *Liu Qinglin and He Qiaodeng* (171)
- Automatic stacking-velocity analysis..... *Wang Weizhong et al* (188)
- Solving forward and inverse seismic problems by boundary-element method in frequency domain..... *Jin Xianxi* (199)
- The application of 3D seismic survey to the exploration and development of Duanliuba oil field..... *Wen Yanjun and Guo Eryang* (206)
- The quantitative analysis of instantaneous floating-point amplifier in DFS-V seismic system..... *Huang Xianlu et al* (219)
- **EXPERIENCE** •
- A research on zero-phase shaping filtering..... *Zhao Zhichao* (227)
- **DISCUSSION** •
- On homomorphic filtering system for convolution—Clarifying some problems in papers relating to homomorphic deconvolution..... *Chen Weizhong* (241)
- **CONTENTS OF OTHER GEOPHYSICAL JOURNALS** •
- Geophysics*, Vol. 52, No. 10, No.11, No.12, 1987..... (254)
- Geophysical Prospecting*, Vol. 35, No.4, No.7, No.8, No. 9, 1987 (255)
- **NEWS** •
- International academic discussion on exploration geophysics, Beijing, 1989..... (139)
- Brief introduction of contributors (256)

No.3

- The forward modeling and reverse time migration of seismic wave field in complex medium..... *Zhou Binzhong and Bao Jishan* (257)
- 3D velocity model and its application..... *Wu Guoming et al* (263)
- Separating the seismic signals from noises with the aid of statistical characteristic of amplitude probability distribution..... *Fu Caifang* (277)
- The influence of thin-bed response on reflection..... *Yang Hui* (287)
- A method for automatically forming the new finite-element grid (294)
- The amelioration of vibrator and its seismic data..... *Lian Suiren* (301)

- The application of fuzzy decision and pattern recognition methods to evaluating reservoir from multi-logging parameters *Zhang Yuntao et al* (314)
- The properties of seismic records obtained with three kinds of geophones, and the interconversion method *Gu Peicheng* (321)
- The application condition of seismic stratigraphy in continental sedimentary basin *Jin Fujin* (330)
- EXPERIENCE •
- The computation of zero-offset VSP forward model *Chen Weizhong* (346)
- A method for VSP wavelet shaping *Wang Xiupei* (350)
- Automatically predicting the depth of target below drilling bit by analyzing zero-offset VSP data *Wang Chengli* (355)
- The exploration example of concealed trap in Rongshengbao subdepression *Zhu Yao* (358)
- The seismic interpretation of thin sand bed (E_s , member) in Dongpu depression *Zhao Shihua* (362)
- The prediction of formation pressure using synthetic sonic logging technique *Bi Lihua and Zhou Jinyun* (369)
- The testing of geophone string *Wang Zunrang* (375)
- DISCUSSION •
- Why not to use "zero" offset reflection method? *Meng Ersheng* (380)
- CONTENTS OF OTHER GEOPHYSICAL JOURNALS •
- Geophysics*, Vol. 53, No.1, No.2, 1988 (384)
- NEWS •
- Microcomputer program for plotting 3D field layout chart (385)
- EVENT •
- Work conference on oil-gas geochemistry exploration in China, Zhuozhou City (385)
- Brief introduction of contributors (386)
- No. 4
- Thin-reservoir reflection and the quantitative interpretation method *Su Shengfu* (387)
- Steps for velocity-lithology quantitative interpretation *Zen Hongliu et al* (403)
- Time-variant dip moveout (TVDMO) technique applying to the case of vertical velocity variation *Chen Guangsi* (411)
- A new velocity analysis method—Poststack dip scan method *Xiao Chali and Yu Jingli* (435)
- An approach to well-free relative wave impedance *Zhang Yingbo* (445)
- Seismic refraction migration *Fu Dandan and He Qiaodeng* (460)
- The initial theoretical approach of diffraction in VSP data *Ma Yongsheng* (468)

- One technique for computer's drawing a geological structure map *Feng Guoxiang and Wang Yongfu* (474)
- EXPERIENCE •
- The estimation of thin reservoir thickness by using SIDIS seismic interpretation system *Zhang Lichang* (483)
- The processing of shear-wave data in Saihantala area *Song Genfa et al* (489)
- The trial of using seismic dynamic information to find out minor faults *Gao Ruzeng* (497)
- Obtaining synthetic seismogram with the use of resistivity data The people working at COMMAND system (504)
- CONTENTS OF OTHER GEOPHYSICAL JOURNALS •
- Geophysics*, Vol.53, No.3, 1988 (513)
- Geophysical Prospecting*, Vol.36, No.1, No.2, 1988 (513)
- Geophysical Prospecting for petroleum*, Vol.27, No.1, 1988 (514)
- EVENT •
- 1st Geophysical Exploration Committee of Tianjin Petroleum Society,
- 2nd academic meeting, Shandong Province (496)
- The symposium on both the 35th anniversary of the founding of Sichuan V—201 seismic crew and the academic discussion, Haitangpu (515)
- Contributors (516)
- No.5
- A new continuous time-varying deconvolution method *Wang Youxin* (517)
- The matrix inversion iteration method for L_1 norm deconvolution *Li Fenglin and Wang Chengshu* (523)
- The inversion of acoustic wave equation with varied coefficient *Zhou Zhusheng and Bao Jishan* (533)
- The inversion of dispersive wave *Yao Yao* (544)
- Pseudospectral wave equation depth migration *Li Jianchao* (553)
- To enhance the signal-to-noise ratio of multichannel seismic record using K-L transform *Yue Chengqi and Tang Quanjun* (560)
- Static correction with near-surface modeling *Yang Baolin and Tian Xitai* (569)
- An analysis of the method for digital filter revision *Wang Weihua* (576)
- The application of pattern recognition to automatic velocity pickup *Chai Zhenyi and Xu Wenlong* (590)
- The application of B-spline function to the calculation of 2D magnetic field along a curve *Jiang Xiaodian and Wang Shouru* (599)
- EXPERIENCE •
- The reflections from gas reservoir and its interpretation *Zhuo Changxiang* (609)
- The calculation of interval velocity using nonzero-offset VSP data *Wang Chengli and Ye Guqing* (616)
- The amplitude processing of zero-offset VSP data *Gu Peicheng* (620)

The design of 50Hz notch filter and its effect.....	Guo Qigui (626)
The fast calculation of outer correction values in global gravity survey in Cartesian coordinate system.....	Yang Zaichao (630)
• CONTENTS OF OTHER GEOPHYSICAL JOURNALS •	
<i>Geophysics</i> , Vol.53, No.4, No.5, No. 6, 1988.....	(638)
<i>Geophysical Prospecting</i> , Vol.36, No.3, No.4, No.5, 1988	(639)
• EVENT •	
CPS-SEG international symposium on oil and gas production seismology, Daging	(625)
Qinghua University and GRI establish the Joint Research Institute of Geophysical Signal Processing & Pattern Recognition, in Beijing.....	(640)
• NEWS •	
Management microcomputer software for seismic data processing— dynamic handling microcomputer management system	(641)
• BOOK •	
Vertical Seismic Profiling	(637)
Contributors	(642)

No.6

Deconvolution filtering and mathematical programming	Li Fenglin and Wang Chengshu (643)
An approach to the correction of 3-D time variant dip moveout	Chen Guangsi (650)
All-dip wave field migration along up-going wavefront or down-going wavefront.....	Wang Zhenhua (663)
The structural pattern in Carboniferous-Permian systems in east Sichuan and the drilling pitfall	Xu Zhongying (676)
The application of synthetic acoustic logging section to lateral reservoir prediction in Aershan oil field	Xin Lianfan (684)
Initial attempt to predict oil reserve by using seismic informations	Hao Sufen et al. (692)
Supersonic methods for determining the Q value of material	Sun Jinzhong et al. (699)
The equation of input voltage in seismic recording instrument —The response analysis of geophone array	Sun Chuanyou (709)
The review and prospect of oil gravity survey in China ... Liu Qingquan (719)	
Trace interpolation technique and its application.....Ku Guozheng (728)	
The relationship between bright spot, dim spot, and oil or gas	Pan Yaojia (737)
• EXPERIENCE •	
The interpretation of a small underwater fan sand body ...Wang Dachang (745)	
The correction and application of migration velocity	Yang Zhenwu and Ji Youxian (752)

The performance of median filtering and its distortion effect	Zheng Yongle (757)
• COMMENT •	
The comment on "CPS-SEG symposium of seismic methods for oil—gas field development and production"	Meng Ersheng (760)
• NEWS •	
China National Oil and Gas Corporation seismic data processing conference, Zhuozhou City	(718)
China Offshore Oil Corporation, conference on oil exploration and development, Xincheng,	(770)
Geophysical Exploration Committee of Sichuan Petroleum Society academic symposium, Deyang	(776)
Contributors	(775)
Contents, No. 1—6, 1988	(766)

• 消息 •

四川省石油学会物探委员会学术交流会在德阳召开

1988年10月25日至28日，四川省石油学会物探委员会课题对口学术交流会在德阳市地矿部西南石油局第二物探大队召开。参加会议的有四川石油管理局、成都地质学院、西南石油学院及地矿部第二物探大队等单位的47名代表，《石油地球物理勘探》编辑部代表应邀出席了会议。会议收到论文28篇，有27篇论文在会上进行了交流。其内容涉及到裂缝性气藏的开发性研究；龙门山逆掩断裂带的地震勘探；VSP技术的应用；高分辨率处理；AVO技术的应用；微机应用成果等。在上述几项研究中，都取得了显著的进展和较好的效果。裂缝性气藏的研究，是利用振幅、频率、相位等多种信息异常，并采用人机联作系统追踪拟测井低速异常、圈定裂缝发育带，成功率可达80%以上。这项研究对复杂、极不均质的裂缝性气藏的开发具有重要意义。成都地质学院包吉山教授的“地震VSP与SRP资料联合反演成像”的报告，发展了VSP技术，该方法由于采用了宽孔径成像，只需在作VSP测量时，同时在地面接收。这项技术从根本上提高了VSP数据和地面数据的价值。地矿部第二物探大队刘德威同志根据西方地球物理公司的一套模块，对川西地震资料作了一系列AVO处理，作出了包络差、P波、S波、梯度叠加、泊松比变化率、潜在碳氢显示、线性回归系数等AVO特征剖面。综合分析这些特征剖面，得出下沙溪庙地层是“暗点”气藏，而大安寨地层是“亮点”气藏。这一认识对四川油气田的勘探和开发是很有意义的。龙门山逆掩断裂带，地处大山区，多少年来，一直是地震勘探的“禁区”。近年来，地矿部第二物探大队和四川石油管理局地调处都开进了这一禁区，并取得了初步成果，查明和落实了一批构造，表明我国地震勘探又进入了一个新的领域。会上还对各自感兴趣的问题进行了交流，并对今后的学会活动提出了很好的建议和意见。

本刊记者 聂开华