

**2D SESIMIC INTERPRETATION AND PETROPHYSICAL
ANALYSIS OF DHULIAN-KHAUR AREA, UPPER INDUS
BASIN, PAKISTAN**



BY

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Dedication

To our Parents and Teachers who have been continuous source of inspiration and help for us, otherwise we would not have been able to achieve our goals and strive for our bright future.

ABSTRACT

The area of study is Khaur oil field. Khaur oil field is located in Punjab, 80 kilometers southwest of Islamabad. The objectives were to study the geology of the area, to delineate the subsurface geology, to evaluate the physical characteristics of the reservoir and evaluation of hydrocarbon potential of the Khaur oil field. The tectonics and geology showed that the area falls in a compressional regime. Two faults were identified; a north dipping main thrust and a south dipping back thrust. The time and depth contour maps showed an up thrown block bounded by two faults, and an anticline was identified. The Paleocene age Patala Formation acts as the source, Eocene age Chorgali and Sakesar act as reservoirs and the Miocene age Murree Formation provides seal rocks. The provided seismic lines were studied. The prominent reflectors on the seismic sections were picked, faults were identified, and structural interpretation was done. Time and depth contour maps were prepared, and evaluation of hydrocarbon potential of the study area was done through petrophysical analysis. Well log data showed that Chorgali is not a potential reservoir, and a zone was chosen from Sakesar that may act as a potential reservoir. However no cross-over zones were identified in the zone, and on the basis of petrophysical analysis, it can be determined that well Khaur OXY-01 no longer acts as a potential reservoir which is why it is now abandoned. A recommendation can be made to work in the Dhulian-Khaur area for water wells. Advanced seismic interpretations techniques can be applied to acquire maximum information about the subsurface. High resolution seismic and wire line logs should be acquired in the fractured zones.

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CONTENTS

ABSTRACT	ii
ACKNOWLEDGEMENT	iii
CONTENTS	iv
FIGURES	vii
TABLES	viii

CHAPTER 1

INTRODUCTION

1.1	History	1
1.2	Location	1
1.3	Data used	1
1.4	Methodology	3
1.5	Objectives	4

CHAPTER 2

GEOLOGY AND TECTONICS

2.1	Introduction	5
2.2	Regional geology of Pakistan	5
2.3	Tectonic zones of Pakistan	5
2.4	Sedimentary basins	6
2.4.1	Upper Indus basin	6
2.5	Stratigraphy of Potwar basin	8
2.6	Well top data provided by LMKR	9
2.7	Petroleum geology	10
2.7.1	Hydrocarbon potential	10
2.7.2	Source rocks	10

2.7.3	Reservoir rocks	10
2.7.4	Cap rocks	11
2.7.5	Petroleum geology of Dhulian-Khaur area	11

CHAPTER 3

SEISMIC DATA ACQUISITION AND PROCESSING

3.1	Seismic data acquisition	12
3.1.1	Acquisition surveying parameters	12
3.1.1.1	Source parameters	12
3.1.1.2	Receiver parameters	12
3.1.1.3	Recording parameters	13
3.2	Seismic data processing	13

CHAPTER 4

SEISMIC DATA INTERPRETATION

4.1	Introduction	15
4.2	Analysis and seismic interpretation	15
4.2.1	Stratigraphic analysis	15
4.2.2	Structural analysis	15
4.2.3	Interpretation of seismic data	15
4.3	Interpretation Steps	15
4.3.1	Selection of control line	15
4.3.2	Solving the velocity window	16
4.3.3	Calculating formation tops.	16
4.3.4	T-D Chart	17
4.3.5	Marking of horizons	18
4.3.6	Jump correlation	18

4.3.7	Marking of faults	18
4.3.8	Time picking	18
4.3.9	Contour generation	22
4.3.10	Contour maps and their description	23

CHAPTER 5

PETROPHYSICAL ANALYSIS AND EVALUATION

5.1	Well logging	27
5.2	Logging objectives	27
5.3	Three main types of well logging	27
5.4	Specification of the well Khaur Oxy-1	28
5.5	Logs used of the well Khaur Oxy-1	28
5.6	Steps used in petrophysical analysis	28
5.6.1	Marking depths of interest	28
5.6.2	Marking zones of interest	28
5.6.3	Logs with marked zones	29
5.6.4	Calculation of volume of Shale	29
5.6.5	Calculating volume of limestone	29
5.6.6	Calculating bulk density	31
5.6.7	Average porosity	31
5.6.8	Calculating effective porosity	31
5.6.9	Calculating R_w	32
5.6.10	Calculating S_w	32
5.6.11	Calculating hydrocarbon saturation	33
5.7	Petrophysical analysis	33
5.8	Petrophysical results	36
	CONCLUSIONS	37
	REFERENCES	38

FIGURES

Figure 1.1. Location map showing Khaur oil field.	2
Figure 1.2. Base map of Study area.	3
Figure 2.1. Geological map of Dhulian- Khaur Area.	7
Figure 2.2. Structural map of Potwar Sub-Basin.	8
Figure 2.3. Stratigraphic column of Potwar Basin.	8
Figure 3.1. Showing Processing Flow Chart.	14
Figure 4.1. Time depth chart.	17
Figure 4.2. Interpretation of Line PDK-106.	19
Figure 4.3. Interpretation of Line PDK-107.	20
Figure 4.4. Interpretation of Line PDK-108.	21
Figure 4.5. Interpretation of Line PDK-110.	21
Figure 4.6. Interpretation of Line PDK-111	22
Figure 4.7. Time contour map of Chorgali Formation.	23
Figure 4.8. Time contour map of Sakesar.	24
Figure 4.9. Depth contour map of Chorgali formation.	25
Figure 4.10. Depth contour map of Sakesar.	26
Figure 5.1. Showing Logs with Marked Zones.	29
Figure 5.2. Graph of depth versus Shale Volume.	33
Figure 5.3. Graph of depth versus Effective Porosity.	34
Figure 5.4. Graph of depth versus Hydrocarbon Saturation.	34

TABLES

Table 1.1 Seismic Lines Used.	2
Table 2.1. Summarizes the age, formation top, thickness and lithology of each formation.	9
Table 2.2. Petroleum play of Dhulian-Khaur area	11
Table 3.1. Description of the source parameters	12
Table 3.2. Description of the receiver parameters	13
Table 3.3. Shows the parameters that are set up to allow recording to begin.	13
Table 4.1. Time and their corresponding depths.	16
Table 4.2. Formations and their colors.	18
Table 5.1. Provides specification of well Khaur OXY-1	28
Table 5.2. Showing results of Sakesar zone	36