

# OIL & GAS DEVELOPMENT COMPANY LIMITED



**TENDER ENQUIRY NO. PROC-SERVICES/CB/RMD-4699/2020**

**RESERVES EVALUATION STUDY-2020**

## **Note:**

Bid bond of **USD 20,000/- (US Dollar Twenty Thousand Only)** must be submitted with the technical bid. Please see tender documents for further detail.

The master set of tender documents (services) uploaded on OGDCL website ([www.ogdcl.com](http://www.ogdcl.com)) is the integral part of this TOR.

# TERMS OF REFERENCE (TOR)

*For*

## Reserves Evaluation Study-2020

Of OGDCL Oil & Gas Fields

(Operated & Non-Operated)

Effective Date: June 30, 2020

## A. INTRODUCTION

OGDCL is the national oil & gas company of Pakistan and the flagship of the country's E&P sector. The company is the local market leader in terms of reserves, production & acreage. The company is listed on Pakistan stock exchange (PSX) and also on London Stock Exchange since December 2006. As Pakistan's largest Oil & Gas producer, OGDCL net share in the country's total oil & gas production stands at average 38578 BPD of crude oil, 1065 MMCFD gas & 570 MT/d of LPG, & also Sulphur 76 MT/d. OGDCL have more than 100 oil & gas fields which are geographically located across the country.

OGDCL has decided to carry out the Reserves Evaluation Study by an internationally reputed third party consultants which involves the assessment of Oil, Gas, NGL, LPG and Sulphur reserves of all OGDCL owned and operated fields as well as non-operated joint venture fields where OGDCL has an interest. These reserves will be further categorized into proven, probable and possible categories & sub-commercial resources will be categorized into contingent resources in accordance with the definitions of reserves classifications & categorization defined by the United States Securities and Exchange Commission (SEC) & PRMS-2018 defined by SPE, SPEE & AAPG. The consulting firm should be registered with any Securities and Stock Exchange Commission.

The Consultant will generate the future Corporate Summaries (the detailed future Cash Flows of Company based on Well/Zone evaluation of each individual field) of the assessed reserves for all 1P, 2P & 3P categories with constant and forecasted prices. The Consultant will also estimate the required Capital and Operating costs to be incurred for the extraction and valuation of these reserves.

The consulting firm will prepare the Reserves Certification Report of newly discovered fields after the Reserves Evaluation Report 2017 on priority basis (ahead of rest of the fields) for their application of D&PL approval from Government (DGPC requirement).

These fields are: Dhok Hussain, Mangrio, Pandhi, Metlo, Togh, Umair and all discoveries/ Development wells drilled by OGDCL or its JVPs before submission of final report will have to be evaluated by the consultant and included in the final report.

The Reserves Evaluation of OGDCL has been performed nine times in the past as below:

1. June 30, 1990 and June 30, 1992 by M/S D&S of Calgary Canada-(2 times).
2. Dec 31, 1994 by M/S Ryder Scott of Houston USA.

3. June 30, 1998 by M/S Outtrim Szabo Associates of Calgary, Canada.
4. June 30, 2004 by M/S D&M of Calgary, Canada.
5. December 31, 2006 by M/S D&M of Calgary, Canada AND
6. June 30, 2010 by M/S TRACS International UK.
7. June 30, 2014 by M/S Bayphase international, UK
8. June 30, 2017 by M/S Schlumberger international, USA

A list of OGDCL's operated fields and non – operated joint venture fields along with an overview of fields/leases are placed at Annexure "A".

## B. SCOPE OF WORK

- (1) Review all geophysical, geological, petrophysical, engineering & financial data pertaining to OGDCL owned and operated fields as well as non-operated joint-venture fields where in OGDCL has an interest.
- (2) The data to be reviewed will include seismic data, time/depth structure maps, well logs, well correlations/cross sections, pressure surveys, PLT/PSP, TDT/RST, PVT, production data, well tests, completion histories and all data relating to current or proposed well drilling, workovers, compression installation, secondary recovery projects or other information relating to past, current or anticipated well activity.
- (3) Review all in-house geological, engineering or reservoir simulation reports as well as reports prepared by independent consultants.
- (4) Prepare estimates of proven, probable and possible in place and recoverable quantities of gas, oil/condensates, NGLs and Sulphur for each well/field. In addition to volumetric estimates, the Consultant will use material balance, DCA and other performance based methods of estimating reserves where ever sufficient dynamic data is available.
- (5) Prepare production forecasts for each well/field on both monthly & yearly basis. The production forecast should include Condensate, NGLs, LPGs, **WHFP** and Sulphur production (where applicable), in addition to the primary products (oil and gas). The consultant is required to furnish CGRs/GORs and WGRs/water cut used in forecasts. In case of Gas & Gas Condensate fields, Timing of compression and gas forecast with compression and without compression will also be required. *All the data should be provided in excel format as well.*
- (6) Review OGDCL financial records to extract historical capital and operating costs (fixed & variable) & also generate forecast of Capex and Opex.
- (7) Review all OGDCL pricing agreements, Tax and other liabilities with relation to applicable Petroleum policies to verify the product prices applicable to each field.
- (8) Prepare Reserves Evaluation reports for OGDCL; based upon incremental reserves categories\_ proven, probable & possible, as well as cumulative reserves categories\_1P (proven), 2P (proven plus probable) & 3P (proven plus probable plus possible) containing

separate evaluation of OGDCL operated fields and non-operated joint venture fields. The report will also contain a separate section consolidating OGDCL (including joint venture).

- (9) The consultant will provide a table (Resource Summary) showing the raw gas reserves as well as sales gas reserves along with In-place, Recovery Factors %, Original Recoverable Reserves & Cumulative production, shrinkage% and Remaining Recoverable Reserves as at 1<sup>st</sup> July, 2020. Also provide the Reserves *comparison between previous study and current running study in Excel prescribed format {Region wise Reserves and total Raw & Sales Reserves (Incremental & Cumulative Figures)}*
- (10) The Reserves Evaluation report will contain two volumes, one containing an escalated case and the other containing a non-escalated case where the costs and prices will be kept constant.
- (11) ***The Consultant will also prepare a fair market value (FMV) report based upon the internationally acceptable methods and procedures.***
- (12) ***At the initial stage of reserves evaluation study, OGDCL also needs to have CPR (competent person report) as a responsible, unbiased and independent opinion on the technical aspects of the company, with the ultimate purpose of informing and protecting investors. CPR also normally required for possible Initial Public Offering (IPO) in the oil and gas sector and for other material transactions such as mergers, acquisitions and takeovers involving a listed company in this sector particularly in the context of the London Stock Exchange. Furthermore, Competent Person's Report (CPR) is needed as an independent technical report including audit, estimation & valuation of the oil and gas assets of OGDCL at 2P (Proved & Probable) levels considering inherent uncertainties.***
- (13) The Consultant will also provide the brief descriptions of methodology, technical & financial terms used in evaluation as an attached annexure.
- (14) Upon the completion of project the consultant will provide confirmation certificate from its Competent Person as per requirement of external Auditors of OGDCL (Soft Signed copy through Mail & also signed hard Copy through Postal Address OGDCL Head office Islamabad)
- (15) In summary, consultant (Competent Person) has to prepare four (4) parts of this project based on SPE-PRMS 2018 framework, as below:

- a) Reserves Evaluation of all operated & non-operated fields individually.
- b) Competent Person Report (CPR).
- c) Fair Market Value (FMV)
- d) Executive Summary (includes above a, b & c parts separately in one volume)

### **C. DATA COLLECTION**

All the data available on OGDCL operated fields and non-operated joint venture fields will be collected by the consultants from OGDCL offices in Islamabad. The consulting firm will provide the experts in the relevant field (geology, petrophysics, production, reservoir, etc.) during the data collection phase. The consultants will conduct an initial review/scrutiny of the data to identify any additional data requirement during the data collection phase. Six (06 weeks) completion periods after signing of contract.

### **D. DURATION & EFFECTIVE DATE OF THE REPORT**

- i. The Reserves Evaluation of OGDCL operated and non-operated joint venture fields wherein OGDCL has an interest will be completed within Eight (08) months from the commencement of the study i.e. start from data collection phase.
- ii. The Reserves Evaluation report will incorporate all data accumulated to June 30, 2020 and will have an effective date of July 01, 2020.

### **E. WORK PLAN**

The consulting firm will submit a detailed work plan for completion of the study within the stipulated duration of Eight (08) months. The Reserves Evaluation study should be broken down into different phases.

Marks will be deducted if a work plan of more than Eight (08) months is proposed by the consulting firm.

A description of the key activities in each phase with a dedicated team with their names (Not more than two professionals per activity), the duration of the phase and location where activities will be performed should be identified in a GANTT chart.

### **F. EVALUATION PROCESS**

As already stated in the work plan the evaluation process will be broken down into different phases and the activities to be undertaken in each phase will be clearly identified by the consultants. The evaluation process will be composed of following activities:

## **1. ESTIMATION OF RESERVES**

Estimates of in place and ultimate recoverable quantities of hydrocarbons under proved, probable and possible categories for each well/field will be prepared. These estimates will be prepared by reviewing/analyzing all geophysical, geological, engineering, production & pressure data available on each field. In preparing estimates of Inplace volumes, Volumetric, Material Balance and other performance based techniques will be employed based on the availability of the data. Interactive discussions with OGDCL professionals should be held wherever necessary. The recoverable quantities should include by-products (NGL, LPG and Sulphur). All future activities planned to be undertaken by OGDCL or suggested by consultant towards enhancement of reserves will be taken into account while preparing reserves estimates.

## **2. PREPARATION OF FORECASTS**

Production & Pressure Forecasts of oil, gas, NGL, LPG and Sulphur production will be prepared for each well/field based upon the remaining reserves estimated above. These forecasts will span the period from July 01, 2020 to the end of each field/well's producing life. The final report would contain the individual wells/fields Production & Pressure forecasts with consultant's working/analysis techniques for preparation of production profiles.

## **3. COST ANALYSIS**

Estimates of capital & Operating costs will be extracted from OGDCL Technical (field development plans, reservoir studies, TCM/OCM etc.) and financial records. Estimates of Capital costs for planned field activities will be prepared by the Consultant. An analysis of Oil & Gas Development Company's financial statements and other documents will be carried out to estimate fixed and variable costs for OGDCL fields.

## **4. PRICE FORECASTS**

The price forecast applicable to the individual oil and gas field evaluated in the Reserves Evaluation Study will be prepared by the Consultant considering the Petroleum Policy and Rules of Pakistan given by regulators. Estimates of price forecast will be extracted from OGDCL's Technical (field development plans, reservoir studies etc.) and financial records with alignment to price forecast analysis of World bank/IMF etc.

## **5. PREPARATION OF CASHFLOWS**

Undiscounted and discounted cash flows for each well/field will be prepared. The cash flows will be prepared for un-escalated case (where costs and product prices are kept constant) and escalated case (cost & prices escalated at a certain rate) for each evaluation case of individual fields at different Discount rates (10, 15, 18, 20 & 25) percent.



## 6. DETERMINATION OF ECONOMIC INDICATORS

Economic indicators i.e. present worth (NPV), pay out time, rate of return, P/I ratio, UTC, cost of finding and breakeven prices etc. for each well/field/Project will also be determined using the cash flow statements generated.

The overall net worth of OGDCL alone, operated + non operated joint ventures will also be determined. The total worth of non-operated joint ventures will also be determined individually. For the purpose of determining value in consolidated report an Undiscounted cash flow and a cash flow discounted at 10, 15, 18, 20 & 25 % will be utilized.

## 7. PRESENTATION & REPORTS

- I. The Reserves Evaluation Report should include, in detail, all aspects of the study. The consulting firm will submit a preliminary report for OGDCL review, allowing sufficient time for OGDCL to complete the review. The final report should incorporate the changes requested by OGDCL and agreed to by the consultants.
- II. The Consultant will be required to present the key findings of the study (the reserves evaluation report and fair market value report) to OGDCL management at OGDCL head office, Islamabad.
- III. The consultant will prepare and provide separate EXCEL file containing 1P, 2P and 3P raw and sales production profiles of all fields used in the generation of cash flows.
- IV. An executive summary report containing salient features of the Reserves Evaluation Report and Fair Market Value Report should also be provided to OGDCL in {Soft copies (Excel, Word & PDF) and Hard copies}.
- V. The consultants will supply a copy of their final input file containing Introduction, geological, petrophysical, reserves, forecast and financial data for each well/field to OGDCL. A copy of final input file for each well/field should also contain the consultant analysis of Porosity, Permeability, Net Pay, Area, GWC/OWC, Bo/Bg, PVT analysis, Reservoir Pressure/Temp. Opex, Capex, Product Price and any other special remarks on the input data during preparation of draft and final reports to OGDCL The consultants will also provide to OGDCL a copy of all output files preferably in a format that can be directly input into the OGDCL Reserves Evaluation System (MERAK PEEP) in generic state and also in PEEP Converted format.
- VI. The consultant will also provide six (06) hard copies of the final report to OGDCL with soft format on Compact Disk (CD/DVD/External hard drive).

## **G. GENERAL TERMS – RESERVES EVALUATION STUDY 2020.**

### **1. Participation of OGDCL Professionals**

The Consultancy services will be engaged for completion of the task as required in scope of work. The contracted firm will provide the required services as per terms of reference/scope of work etc. The consultant should propose a program for the involvement of OGDCL professionals in the Reserves Evaluation process to review their work before completion of the preliminary report by providing the necessary input/suggestions and learn/discuss their methodology and concepts regarding Reserves Evaluation process. OGDCL may like to accomplish this study in association with its Seven (07) professionals [two from Reserves Evaluation section, two from Reservoir Monitoring sections, two from Development Geology sections {i.e. 6 (six) from Reservoir Management Department} & one participant from Finance/Accounts department] without any financial impact on the consultant. All costs of participation of OGDCL's participants will be borne by OGDCL as per company policy. However, the Consultant will provide the office space and work facilities during the participants visit at its office. The consultant should also propose the appropriate duration of individual participants in the work plan.

2. **Major data collection** must start with signing of the contract/service order and to be preferably completed up to six (06) weeks' time. However, the data exchange/provision would be the continuous process up to draft report phase. The proposal from the consultant should also include the following: -

- a) A detailed work plan with phases and time schedule to complete the study within Eight (08) months and it should be submitted with the technical bid.
- b) The Consulting firm should submit the name of the technical personnel/team including Competent Person who will perform the required study accomplishing the scope of work as desired, and resume of their academic qualifications and experiences etc. The personnel who will conduct the study should be dedicated fully to this study.
- c) The consultant should provide the list of the team which is expected to conduct the study by naming the professional for specific jobs. Alternate professional names with their resume should also be mentioned so that if professional nominated is not available during the study, who will be his substitute.
- d) The consultant should clearly mention its experience in Reserves Evaluation Studies and work experience in similar geographical area (Pakistan & Middle East etc.)

3. Upon draft-completion of the study, the Consultant will send three (03) hard copies of draft report to OGDCL. For draft review 2 weeks may be included for OGDCL professionals. The consultant will submit six (06) hard copies of the final report, along with two executive summary reports each for escalated as well as non-escalated cases. The softcopies should also be provided to OGDCL.
4. All geological, geophysical, drilling, testing, production, well logs, core and fluid analysis data required for the study will be available to the consultant free of charge. Such material will remain the property of OGDCL. The consultant will treat all data and information supplied by OGDCL and those acquired by him during the implementation of the study with utmost confidentiality. All the input data provided by OGDCL will be returned back to OGDCL in arranged manner (Field wise) after the completion of the study.
5. OGDCL reserves the right to discontinue any study/ task/ service related to above scope of work at any stage.
6. Consultant would mention their bid cost estimates of each phase separately but OGDCL will evaluate the bid on total cost basis along with other criteria i.e., personnel's experience, company's experience, experience on similar projects etc.
7. The cost of software should also be mentioned separately if any, as Optional cost.
8. Consultant will submit their invoices on each phase basis. OGDCL will make applicable rate deduction of taxes as Pakistan corporate tax as per Government of Pakistan Rule/ any other tax rate in accordance with the convention to avoid double taxation between GOP and bidders' country if any or any other amount announced time to time by GOP in this regard. This will apply only on the study cost not including the expenses incurred on presentations made in Pakistan.
9. The project start date will be the 7<sup>th</sup> day after the date of signing of contract.

#### **H. SUBMISSION OF PROPOSALS**

The consultants interested in undertaking the desired task are advised to submit their bid/proposal to the office of the GM (General Manager), Supply Chain Management Department, OGDCL, Islamabad.

- a) Technical and Financial proposals should be submitted separately in two sealed envelopes clearly marked "Reserves Evaluation Study-2020 of OGDCL (Financial Proposal) and (Technical Proposal)" respectively.

- b) The technical part of the proposal should contain a tentative work program and time schedule to complete each phase of the study. Details of similar projects completed by the consulting firm, the manpower allocation and their bio-data should also be included.
- c) **The technical proposal** must contain a brief history of consulting firm, the nature of services provided, the key projects undertaken and its experience in the field of Reserves Assessment and Independent Economic Evaluations. The bio-data of the team members should be submitted in the format outlined as under.
- Educational Qualifications
  - Total overall relevant experience, special consideration to the experience regarding Reserves and Economic Evaluation.
  - Overall experience of the personnel with the bidding company. Total overall experience of the person. The detailed description of the relevant experience with the bidding company.
- d) **The financial section of the proposal** should contain: -
- i) A phase-wise break down of the costs.
  - ii) The total cost of the study.

## J. EVALUATION CRITERIA

### TECHNICAL QUALIFICATION CRITERIA SHEET

#### COMPARATIVE SCORE SHEET OF TE RESERVES EVALUATION STUDY-2020

		Criteria	Total Marks	Company Name (Marks Obtained)
1). - a	Experience of the Firm/Consultant	Minimum 10 years in Reserves Evaluation Projects	10	
1). - b	Experience in similar geographical areas	Pakistan, Middle East, India, Bangladesh, Iran.	5	
2)	Technical approach	Through experience in G&G, Reservoir, production engineering, Reserves Evaluation & petroleum economics	20	
3)	Work plan including manning schedule	8 Months/ Phase wise	25	
4)	Skill transfer plan	Participation plan for OGDCL professionals	10	
5)	Persomel experience of the professionals	Related experience of professionals	30	
			100	0

Chairman of Committee

Member

Member

1.1 Financial proposal of bidders obtaining less than 80% points in total and less than 70% point in each category in the technical evaluation will not be opened.

1.2 For award of contract, technical evaluation will be of 80% weightage whereas financial evaluation will be of 20% weightage.

## **ANNEX-A**

### **OVERVIEW OF OGDCL OIL AND GAS FIELDS.**

So far, OGDCL has drilled around 800 wells (400 Exploratory/Appraisal wells) and (400 Development wells). OGDCL has discovered one hundred plus (100+) oil and gas fields. Twenty-plus (20+) are Oil fields and eighty-plus (80+) are Gas fields. The following fields are yet to come on stream.

Aradin, Chandio, Jandran, Jhal Magsi South, Nim west, Sara West, TAY-North, Suleman. Thal East, Zin, Pirkoh Deep-01, Mithri-01, Gudanwari-01, Chhabaro, Bhambra, Tando Allahyar South West-01, Dhok Hussain-01, Umair-01, Chanda-05(Samanasuk), Mangrio-01, Pandhi-01, Togh (Hangu, Lumshiwai & Lockhart), Chanda-1 (Wargal), Metlo-01 etc.

OGDCL owns and operates a total of one hundred and two (102) oil and gas producing fields and more than two hundred eighty (280) wells of these fields have produced and currently two hundred thirty-plus (230+) wells are producing oil/condensate and gas over a period of fifty-two 52 years (i.e. from 1968 to date).

OGDCL is obtaining production from many formations but the gas production from SML (Sui Main Limestone) formation is ranked number one, while the oil production from Lower Goru formation the second prolific zone and the third prolific horizon for the oil and gas production is Sakesar & Lockhart formations. The other producing horizons are Datta, Khewra, Tobra, Jutana/Baghanwala, Patala, Chorgali, Murree, Pab, LRK, SUL, HRL, Lumshiwai, SamanaSuk and Shinawri, **Wargal** etc.

An overview of OGDCL Operated fields contained in North, Center and South areas as well as Non Operated JV fields are presented below.

#### **1. OVERVIEW OF NORTHERN FIELDS.**

The Northern area is comprised of Potohar plateau of Punjab & Kohat Basin of KPK province. OGDCL have the following Seventeen 17 operated fields in the Northern region, Upper Indus Basin, of Pakistan, Bhal Syedan, Chaknaurang, Chanda, Dakhni/Dakhni Deep, Fimkassar, Jand, Kal, Mela, MissaKeswal, Nashpa/Nashpa X-5, Rajian, Sadkal, Soghri, Toot, Dhok Hussain, Togh and Sheikhan.etc.

Nine 9 fields out of Thirteen 13 Northern fields are oil fields. Rest of Eight 8 fields (Bhal Syedan, Dakhni, Jand, Togh, Sadkal, Sadkal, **Dhok Hussain & Togh**) are Gas Condensate fields. Thirteen 13 out of seventeen 17 fields are producing. Chanda field was put on stream in mid-2004 after completion of 10" pipeline from Chanda to Daudkhel by SNGPL. Later on Mela and Nashpa are hooked up with this line.

#### **2. OVERVIEW OF CENTRAL FIELDS**

The Central area is comprised of Punjab Platform & North West part of Sind and Eastern Baluchistan. The following Eighteen 18 operated fields of OGDCL lie in the central region, Middle Indus Basin, of Pakistan,

Bahu, Dhodak, Jandran, Jhal Magsi South, Loti, Maru, Maru South, Maru East, Nandpur, Panjpir, Pirkoh, Qadirpur/Qadirpur Deep, Reti, Sara West, Uch and Zin, Khamiso, **Umair**, Metlo etc.

Dhodak and Jhal Magsi South are Gas/Condensate, the rest of Eighteen 18 central fields are Dry Gas fields. All fields (except Bahu, Nandpur, Panjpir, Jandran, Jhal Magsi South, Sara West, **Umair**, Metlo and Zin) are presently on stream. At present, Jandran is under force majeure & Jhal Magsi South, Zin and Sara West fields are being appraised.

### **3. OVERVIEW OF SOUTHERN FIELDS OF OGDCL**

The Southern area is comprised of Southern Sind (Badin/Dadu/Hyderabad Area) and South East part of Baluchistan. OGDCL have the following fields in the southern region, Lower Indus Basin, of Pakistan, Aradin, Bagla, Baloch, Bhambra, Bitrism-W , Bobi, Chak-2, Chak5dim (Miathrao), Chak-63, Chak-63 S East, Chak-66 Ne, Chak-7a, Chandio, Chhabaro, Chhutto, Dachrapur, Dars, Dars Deep, Dars West, Daru, Gopang, Gundunwari, Hakeem Daho, Hundi, Jakhro, Jarwar, Kunnar, Kunnar Deep, Kunnar South, Kunnar West, Lala Jamali, Lashari Center, Missan, Mithri, Moolan, Moolan-N, Nim, Nim-West, Norai Jagir, Pakhro, Pali-Deep, Pasahki /Psk Ne, Pasahki Deep, Pasakhi East, Pasakhi Wd, Resham, Saand, Sari, Shah-01, Sono , Suleman, Tando Alam, Tando Allah Yar, Tando Allah Yar N, Tando Allah Yar Sw, Thal East, Thal West, Thora, Thora Deep, Unar, Mangrio, Metlo, Pandhi, Chak 66, Chak 5 Dim South, Dhamraki, Nur etc

Sixty-seven (67) out of one hundred and two (102) fields exist in Southern part of Pakistan. Bobi field has two producing layers in Lower Goru formation. One layer is designated as Gas Condensate. The second layer is designated as volatile oil. Thirteen (13) (Bobi, Chak 63, Jarwar, Kunnar, Lashari Center, Missan, Moolan North, Palli, Pasahki, Shah, Sono, Tando Alam & Thora) out of Sixty-Seven (67) Southern fields are oil fields. Two fields (Hundi and Sari) out of Sixty-seven (67) Southern fields are dry Gas fields. The Rest of fifty-two (52) fields out of Sixty-seven (67) are Gas Condensate fields. Thirty-Eight (38) out of Sixty-seven (67) are producing fields.

### **4. Projects Details:**

1. Tando Alam Complex (TOC) (South)
2. KPD-TAY Project (South)
3. Sinjhor Project (South)
4. Bobi Oil Complex (South)
5. Nashpa-Mela Project (North)
6. Suleman-Mithri Project (South)
7. Daru Complex (South)
8. UCH-I & UCH-II (Center)
9. GUDDU EL (Center)

Above projects include OGDCL operated fields that produces as a cluster in the said plants.

## 5. Bird's-Eye VIEW OF NON-OPERATED J.V. FIELDS.

OGDCL has varied working interest in the oil and gas production of non-operated J.V. properties. The list of fields with OGDCL working interest and the name of operator are provided below.

NAME OF FIELD	OPERATOR	OGDCL SHARE
Buzdar+ Buzdar South (Buzdar Unit), Buzdar South deep, Jabo, Jalal, Kato, Meyun Ismail, M.I. deep. Paniro, Baqar deep, Pir, Rind, Zaur, Zaur deep, Zaur West, Pir Apan, Juma, Chamman & Chamman East-01.	Badin-II UEPL	49 %
Jagir, Keyhole G, Muban, Raj, Sakhi deep,	Badin-IIR UEPL	24 %
Jhaberi South, Shah Dino, Junathi South, Ali Zaur.	Badin-III UEPL	15 %
Dhurnal, Ratana AND Bhangali	OPI	20, 25 & 50 %
PINDORI	POL	50 %
Kadanwari, Bhit & Badhra	ENI	50 & 20%
Sara/Suri	Tullow	40 %
Miano	UEPL	52 %
Manzalai, Makori, Makori East, MamiKhel, Mardankhel, Tolang, Tolang West, Makori Deep, Maramzai	MOL	28 %
Adhi	PPL	50 %
Badar	PEL	50 %

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