

## PAKISTAN OPERATIONS

### (An Overview of Baker Hughes Setup in Pakistan)

#### Baker Hughes: “The Energy Company”

**Baker Hughes and Pakistan are not strangers. We have a full-fledged Set up in Pakistan, which is complete in all aspects and one of the largest in the Middle East region.** We take pride in our present set up which is not only extensive and developed, but also well organized. A brief review of our current set up in Pakistan is given as follows:

#### **Our History:**

BH entered the Pakistani market in 1970’s, when we used to supply chemicals as Milchem International and provide Mud logging services as EXLOG. Since then, we have evolved and at present **one of the major service companies in Pakistan in all our associated fields.** We have served **almost every operator in Pakistan** and in almost every field, ranging from **Mud logging, Coring and Fluids to MWD and Directional drilling.** Without exception, we have served them to the best of our abilities and to the fullest of their expectations and have never disappointed any of our clients. Our satisfied list of clients includes:

- BP Pakistan
- Occidental Petroleum
- Premier Kufpec Pakistan B.V.
- Amoco Petroleum
- BG Pakistan
- Pakistan Petroleum Limited
- Tullow Oil Pakistan
- Orient Petroleum Inc.
- ENI Lasmo Pakistan
- MOL Pakistan
- Dewan Petroleum
- Shell Exploration
- OMV Exploration
- Conoco Pakistan
- Hunt Exploration
- BHP Billiton
- Pakistan Oilfields Limited
- Polish Oil & Gas Company
- Petronas Charigali Pakistan
- Hycarbex Inc.
- Mari Gas Company Ltd.
- Pakistan Exploration Limited

#### **Our Services:**

**BHGE’s wide range of service includes the following:**

- **Directional drilling:** We are the pioneers of horizontal drilling in Pakistan with 50% of the horizontal wells drilled in Pakistan to our credit. Also RSS System is being used by major multinational clients. We had successfully completed the drilling campaigns of BHP & ENI.

- **MWD/LWD:** We offer complete range of MWD/LWD services in Pakistan. Dubai is being used as our base for servicing the tools.
- **Drilling Fluids:** We have over a million dollar Fluid inventory in Pakistan. We have provided fluids services to almost every client in Pakistan and offer from conventional Lignosulphonate systems to modern Glycol mud systems. In oilbased drilling fluids, we are an undisputed leader.
- **Coring:** We have cored almost all types of formations in Pakistan and offer a wide variety of Christensen coring systems.
- **Mud logging:** We are the undisputed leaders with the largest fleet of units in Pakistan. All our units are equipped with modern data communication facilities.

## Our Experience:

When it comes to experience, there is no par. We have worked in every area of Pakistan and have gained immense data and information. Let us summarize as follows:

- **Upper Indus basin ( Potowar Area )** : We are undoubtedly the leaders in this area. We have done countless wells with **Pakistan Oilfields ( Meyal, Pariwalli, Bela , Turkwal, Pindori, Balkassar, etc )**, **Occidental ( Ratana, Dhurnal, etc )**, **Shell ( Nurpur well )**, **Amoco (Kahi # 1, Sumari # 1)**, **MOL (Tal Block-Manzalai / Makori)**, **Pakistan Petroleum Limited (Adhi wells)**, **OGDCL (Dakhni, Chanda, Nashpa, Mela, Toot etc.)** to name a few.
- **Lower Indus Basin ( Badin Area )** : Here we have worked with **Union Texas Petroleum (BP Pakistan) ( Badin Block )** which is the largest operators in this area. Besides them, we have also provided services for **Tullow Oil** (Meting well, Khan, Khairgarh, Gupchani, Lalian), **Pakistan Petroleum Limited** (Daud Well), **Premier** (Hathungo well), **Hunt Exploration** ( Damiri and Sher wells ), **Petronas Carigali Pakistan** (Mehtar Block). **Pakistan Oilfields Ltd.** (Southern Sindh # 1, Azim # 1 well), and **Orient Petroleum Inc.** (Sanghar / Khipro Block). We have also been actively involved with **BHP** on their Zamzama field and with **Lasmo/ ENI** on their Bhit/Badhra fields.
- **Central Indus Basin ( Gambat, Miano, Kadanwari and surrounding areas)** : This is once again an area, where we have done many wells with **OMV** ( Miano, Sawan and Gambat wells ), **British gas** ( Gambat block ), **Premier** ( Kandra well ) **Tullow Oil** (Sara, Suri, Khan, Khairgarh wells), **Mari Gas** (Mari Field), **POGC** (Sabzal – 1) and **Petronas Carigali Pakistan** (Mubarak Block). We have also been with **Pakistan Petroleum** in their Sui field and in **Block 22** (Hasan, Sadiq, Yusuf and Kandh Kot wells). We were also with **Lasmo / ENI** on their Kadanwari field.
- **Baluchistan Basin ( Quetta and surrounding areas )** : This is one of the most remote areas of Pakistan, but we have worked in this area for **Conoco Exploration**, **British Gas** ( Savi Ragha wells ) and **Paige** (Ramadan Well). We have also been with **Premier** at their Zarghun and Dureji wells.

- **Kirthar Range ( Sehwan, Dadu, Larkana and surrounding areas )** : This is one of another challenging area for drilling Pakistan., but we have worked in this area for **BHP** (All Zamzama Wells), **Petronas Carigali Pakistan** ( Mehar Block), **Eni** (BHt wells and Bhan – 1) and **Premier** (Maliri – 1).
- **Offshore Basin ( Pasni and Gwadar blocks )** : Although there is not much offshore activity in Pakistan, some wells were drilled recently by **Ocean Energy, Pakistan Petroleum Limited, Shell, Total & ENI Pakistan**. We were associated with them throughout their drilling campaign and gained invaluable offshore experience from these wells.

Whether it is the high pressure and deep wells in the North or the short & shallow wells in the South, **we have done them all and we can do them all.**

### **Our Personnel:**

We are at present **one of the largest service company in terms of manpower**, with the overall employee strength of **more than a hundred personnel**. Our Team of personnel includes mud loggers, mud engineers, MWD/LWD engineers, service engineers, coring engineers and directional engineer.

We have proper competency management program in place & as per latest status of the Pakistan competency status we are 100% CMP.

**BHGE really believes in training and development.** We think that all services are interrelated and this is why, all our personnel are cross trained in various disciplines like drilling fluids, Coring, MWD & directional drilling etc. Due to this our personnel have a **broader vision at the rigsite**. The client also takes full advantage of our cross training and saves on additional personnel costs.

We not only have a qualified team of Field personnel, but also have trained and capable **force of service engineers**. They are based out of our Islamabad workshop and are experts in their areas. They are **all qualified engineers and physicists** and have been trained to perfection in various regions of the world. **They provide a 24 hour engineering support** and are always ready to go out in the field and prove their worth.



**Our Engineers at work**

It is our mission to not only impart training to all our personnel, but also **increase awareness among our clients** and promote an atmosphere of learning and understanding. For this noble purpose, **we maintain a fully equipped Seminar room** at our facilities and continuously organize such informative and **client supportive**



**Actual outcrop samples from Potowar formation**

**seminars.** Such programs give our clients a forum to speak out and tell us, as to what they expect from us and how we can improve ourselves.



**Workshop for Clients**

### **Our Office support:**

Our Office is based in Islamabad and also houses an Outdoor yard, an engineering workshop and a field formulation and pilot testing mud lab. **We also have an office cum warehouse in Karachi, which serves as a focal point in all our activities around Karachi.**

**Islamabad Office:**

Besides being the central point of our operations, the Islamabad office also serves as a technical support base. It houses not only our District manager, but also other support personnel like field coordinators, material coordinator, accountant, Drilling Engineers, well planner, Motor technician, service engineer etc.



**Our outdoor yard where units are serviced & prepared for Rigsite**

For LWD/MWD/Mud logging support, we have a **fulltime MWD/Survey/Mudlogging coordinator**, who does not only keep regular contact with the rigsite, but also with the clients. He runs the entire operation and makes sure that the field personnel know exactly what the client needs.

Baker Hughes provides full **24 hr Fluids engineering support** and backup to all its drilling fluid engineers in the field. This is not only extended from our Islamabad base but also backed up from Dubai, Aberdeen and Houston establishments.

Our **Drilling fluids District manager & Coordinator are based in Islamabad**. Both of them provide round the clock technical assistance to all our engineers in times of need. Our **Ultra modern state of the art, labs in Aberdeen and Houston are utilized to simulate actual field environment** and check and pilot test all field formulations before final application. This unparalleled support has proved its worth to many of our customers and no wonder they have acknowledged it.

**Karachi office:**

Our Karachi office and warehouse are ideally located close the Karachi port and serve as a prime point for operations around Karachi. **It is manned by our Logistics coordinator, who not only handles all port and custom obligations, but is also travels extensively to all parts of the Country and finds new and better ways to handle the complex issue of Oilfield logistics**. He is assisted by a team of dedicated staff workers who are second to none.

**Our Service Engineers:**

**No company is complete without proper Engineering support and Workshop. We have the largest fleet of engineers and the largest Engineering workshop in the country. Our engineers are always on the call and being true professionals, they are always ready to take up a challenge. This endeavorance to be the best is proved by the fact that our Workshop and engineers are not only supporting Pakistan District, but are also providing active guidance to operations in Qatar, Azarbaijan, Kazakhstan, Dubai, Yemen etc.**



**Backup Equipment being checked & color coded**

We have **separate personnel for Aircon maintenance and Inventory control**. They are experts in their areas and make sure that the units going out to the locations are fully serviced and not lacking in any supplies.



**Inventory man checking stocks**



**Aircon guy in full gear**

### **Our Field Formulation and Pilot Testing Lab:**

Baker Hughes has fully operational drilling fluids engineering lab at its Islamabad office. The lab is not only equipped with standard testing instruments, but also has most modern mud testing equipments like **Hot rolling oven and High temp.- high press. filtering apparatus**. The lab is used by our engineers for formulation and pilot testing purposes. It is capable of testing all field formulations, especially the ones applicable in high temp.-press. Environment. It proves our commitment to always be technically sound and superior and provide new, **cost effective tested and proved field formulations** to all our customers.



**Our Field Formulation Lab**

The lab also serves as a **back up and servicing - checking facility** for all our mud engineering equipments to be used on the rig site. It also **stores all the required drilling fluid testing chemicals and reagents**. It thus eliminates any last minute hassle regarding equipment breakdown and chemicals requirement.



**Product samples for Pilot Testing and Mud Testing Equipment**

Baker Hughes believes in Cross training. **The lab is thus also utilized for cross training purposes**. Our Mud loggers, Field data engineers, MWD engineers and all concerned personnel are given short and basic Drilling fluid courses, which gives them a better understanding of field operations. This in turn gives us the **advantage of working together as a team** among ourselves and with other service companies.

## **Our Storage Warehouses (Karachi & Islamabad):**

No Company is complete without its chemical warehouses and inventory of mud chemicals. Keeping in view the drilling regions of Pakistan and the sensitive nature of drilling fluid chemicals, Baker Hughes stores its inventory in **storage godowns in Karachi and Islamabad**, so that both the southern and the northern drilling provinces are properly covered.



**Karachi Warehouse**

**We believe in continuous and round the clock support. For this purpose we have a fulltime Materials Coordinator based out of Islamabad and a Logistics Coordinator based out of Karachi.** They are supported by a trained and organized team of packing, loading and transportation personnel. They keep track of all the chemicals despatched to the rigsites and closely monitor our inventory movement.

**A sizable inventory of both local and imported products** is kept in ready state (**Shrink wrapped and palletized**), to be dispatched to the rig site as soon as possible. We have **contracts with various transporters**, which save us from last minute searches and help us in proving our performance.

## **Our Packing Standards and Facilities:**

**Baker Hughes is proud to be the only Drilling fluids company** in Pakistan to have its own Packing facilities. This underlines our commitment towards providing the very best to our customers. The Packing facilities are situated in **Karachi and Islamabad**, where our experienced and trained crew are always ready to pack and wrap in accordance with **international Oilfield Standards**.

All our chemicals are thoroughly checked and examined, before dispatching for the rig site. We have our own **Shrink-wrapping gun and apparatus**, with the help of which, all chemicals are shrink-wrapped and Jungle boxed, as per own and our clients requirement. Similar large scale facilities are also present in our **Dubai regional warehouse** and in our storage locations all around the Middle East.



## **Our Procurement Procedures:**

Due to **import regulations on certain products**, imposed by the Government of Pakistan, we have to procure locally available and manufactured chemicals like Barite, Lime, Gypsum, Salt etc. Because of this, although we do not have any direct control

over the quality of such chemicals, but still we have the right to search and choose and our **Quality control department** assures that we exercise our right and **get nothing but the very best. Our quality assurance staff** not only evaluates the quality, but also the physical and chemical properties of all the products we purchase and produce. We also continually **evaluate new sources for these materials**, which enables us to keep abreast of new opportunities and to **provide our clients with high quality products and services as economically as possible.**

**Baker Hughes has a strict quality control and environment friendly policy, which is implemented worldwide.** In Pakistan, we make it sure that everything procured is thoroughly tested for quality and environment friendliness, not only in **labs in Pakistan, but also in our labs in Aberdeen** and Houston, before procurement.

**All API specifications have to be met before finalizing all deals.** Similar procedures are adopted in all our procurement and manufacturing centers round the world. All our products have their **Material Safety Data Sheets**, which summarize their testing, quality, handling and environmental impact.

As far as Import of chemicals is concerned, Baker Hughes has its **own Import cum Export permit** and we import drilling fluid chemicals on our permit with **no legal and financial obligations to our clients.**

## **Our Commitment:**

**Our commitment is to become our clients preferred customer.** We are committed to provide a range of comprehensive services for formation evaluation and drilling optimization. And we constantly find ways to improve the value of our services.

**Through the combination of modern technology, quality staff, efficiency and safety our motto of “advancing discovery and recovery” is more than a slogan, it is our reason for being in business.**