

## INTRODUCTION AND SCOPE OF WORK

Zin E.L (2868-1) comprising an area of 5559.74 sq.km falls in the southwestern part of Sulaiman Range, covering parts of rugged topography in Dera Bugti, Kohlu, Nasirabad and Sibbi districts in Balochistan Province. The concession was granted to OGDCL, with 95% working interest and operator of the block whereas 05% working interest (carried) is of M/S GHPL, on 23rd June, 1996.

**BLOCK 2868- I (ZIN) EXPLORATION LICENCE AREA**  
DERA BUGTI, KOHLU, NASIRABAD & SIBI DISTRICTS, BALUCHISTAN PROVINCE, PAKISTAN  
AREA 5559.74 SQUARE KILOMETERS

The map displays the ZIN E.L. area in Baluchistan, Pakistan, covering parts of Dera Bugti, Kohlu, Nasirabad, and Sibi districts. The area is 5559.74 square kilometers. Key locations include Sibi, Dadhar, Gandava, Jacobabad, and Dera Bugti. The map also shows the Bolan River, various roads, and geographical features like hills and mountains. A yellow box highlights the ZIN E.L. area, and a black box indicates an 'AREA EXCLUDED' near Dera Bugti. The map is oriented with North at the top, and the coordinates 68-00 and 70-00 are marked along the bottom edge.

<b>A</b>	<b>29° 20' 00"N</b>	<b>69° 20' 00"E</b>
<b>B</b>	<b>29° 02' 00"N</b>	<b>69° 20' 00"E</b>
<b>C</b>	<b>29° 02' 00"N</b>	<b>68° 57' 46.35"E</b>
<b>D</b>	<b>28° 45' 34.17"N</b>	<b>68° 57' 46.26"E</b>
<b>E</b>	<b>28° 36' 57"N</b>	<b>68° 54' 35"E</b>
<b>F</b>	<b>28° 49' 30"N</b>	<b>68° 28' 55.0"E</b>
<b>G</b>	<b>28° 40' 00"N</b>	<b>68° 23' 45"E</b>
<b>H</b>	<b>28° 40' 00"N</b>	<b>68° 20' 00"E</b>
<b>I</b>	<b>29° 00' 00"N</b>	<b>68° 20' 00"E</b>
<b>J</b>	<b>29° 00' 00"N</b>	<b>68° 10' 00"E</b>
<b>K</b>	<b>29° 20' 00"N</b>	<b>68° 10' 00"E</b>

## **GEOLOGICAL FRAMEWORK**

Zin structure is an asymmetrical doubly plunging anticline feature located in the southern part of the E.L. The ESE-WNW trending axis can be observed for 66 kms on the surface. The southern flank is steeper than northern flank having maximum dip up to 60°. The oldest formation exposed on the surface is Habib Rahi Limestone flanked by younger members of Kirthar (Sirki, Pirkoh & Drazinda), Gaj, Nari and Siwaliks.

## **TECTONICS**

Zin E.L. is located in the frontal portion of the Sulaiman thrust belt. This part of Sulaiman Range consists of broad East - West trending doubly plunging folds, thrusting southward along a weak decollement.

Large scale thrusting and significant crustal shortening characterize the Sulaiman Range and the resulting deformation style is indicative of an overriding effect of thin skin tectonics.

In the Zin E.L major thrusts do not significantly emerge at the surface, only part of a major thrust is exposed on the southern flank of the Bhambor anticline, in the North of Zin structure. The NE-SW trending faults are traceable in the area with the help of satellite imageries and on seismic.

Major producing fields of Sulaiman Range such as Uch, Sui, Loti and Pirkoh are located in the vicinity of Zin E.L area. Major structural features namely Zin, Bhambor and Hadilat are exposed on surface in the E.L area.

## **2- SCOUTING OF THE SURVEY AREA**

The Company requires that the Contractor is fully aware of all local conditions in relation to seismic operations. Contractor should conduct a detailed scouting trip prior to submission of technical & financial Bid proposal of the Project area to address, amongst others, the following issues:

1. Sufficient base station locations for the survey system, as required.
2. Hazard Maps.
3. Operational Risk Assessment
4. Baseline Environmental assessment of the survey area
5. Evaluate effects and disturbance of the operation on the local habitats.
6. Road Maps and location of airstrips
7. Location of proposed base camp
8. Local logistics and infrastructure.
9. Local legal frame work, in particular for labor and safety regulations.
10. Licensing permits and tax requirements,
11. Explosive magazines requirements etc.

## **3- SEISMIC OBJECTIVES**

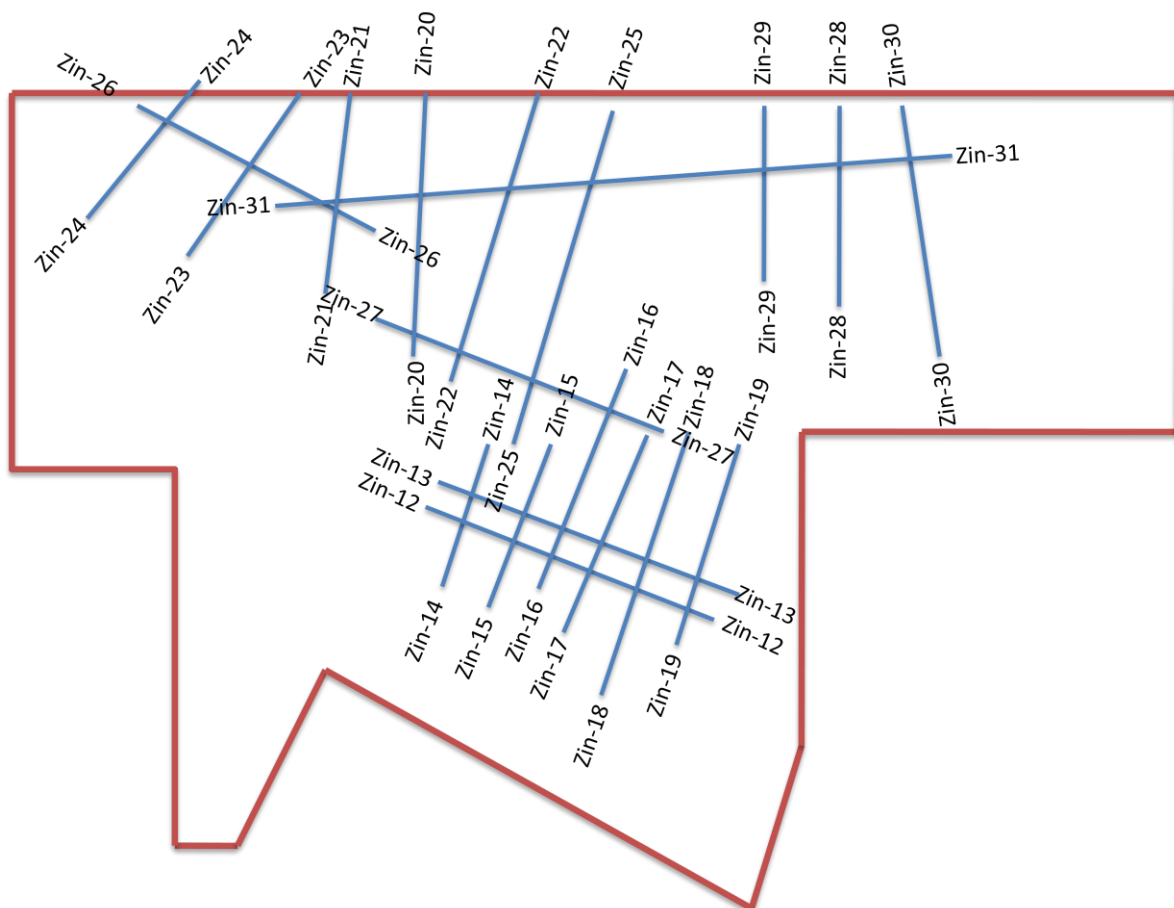
The aim of the 2D seismic program is to upgrade the existing mapping after 2D seismic acquisition. This seismic reflection survey will help to further delineate the structural configurations and shall be used:

1. To acquire good quality seismic data by optimizing acquisition parameters.
2. To Improve fault definition/subsurface imaging by optimizing the line orientation.
3. Full fold tie with the old data in order to have direct correlation with the deep horizons data.

4. Reliable structural mapping at Pirkoh, HRL, SUL, SML (Eocene); Pab, Goru carbonates, Sember (Cretaceous) and Chiltan Lst (Jurassic) levels.
  1. To map Eocene reservoirs at depth of around 650m – 1300m
  2. To map Pab Sst reservoir at the depth of 1750m – 1850m
  3. Deeper reservoirs at the depth of around 3100m-4700m.
5. To enhance subsurface image at reservoir levels for delineation of better drilling locations for Exploration and further development of the field.

#### 4- SEISMIC WORK PLAN

The seismic work plan includes acquisition of 521 L.km 2D data. Orientation of strike line can be changed after the acquisition of dip lines. The completion time of the project is about 09 months after signing of the contract.



## 5- SEISMIC WORK PROGRAM

The Detailed 2D seismic work program is given below. **Orientation of strike line can be changed after the acquisition of dip lines.**

### Zin 2D (Coordinates)

#### Seismic work program 521 L.km 2D data

Line Name	SP			Line Kms
ZIN_12	Start	28°58' 5.9"N	68°35' 1.1"E	30.3
ZIN_12	End	28°52'13.2"N	68°52'25.2"E	
ZIN_13	Start	28°59'24.2"N	68°35'27.6"E	31.67
ZIN_13	End	28°53'33.9"N	68°53'46.5"E	
ZIN_14	Start	28°53'33.7"N	68°35'29.1"E	16.1
ZIN_14	End	29° 1'42.2"N	68°38'59.2"E	
ZIN_15	Start	28°52'40.2"N	68°38'45.6"E	17.8
ZIN_15	End	29° 1'41.6"N	68°42'33.9"E	
ZIN_16	Start	28°53'36.2"N	68°41'43.0"E	23
ZIN_16	End	29° 5'14.0"N	68°46'46.7"E	
ZIN_17	Start	28°51'12.6"N	68°43'28.9"E	20.69
ZIN_17	End	29° 1'30.0"N	68°48'21.3"E	
ZIN_18	Start	28°48' 5.9"N	68°45'46.6"E	26.07
ZIN_18	End	29° 1'36.6"N	68°50'25.5"E	
ZIN_19	Start	28°50'57.3"N	68°50' 5.2"E	20.26
ZIN_19	End	29° 1'29.7"N	68°53'32.6"E	
ZIN_20	Start	29° 5'41.3"N	68°34' 0.5"E	26.8
ZIN_20	End	29°20'11.4"N	68°34'39.3"E	
ZIN_21	Start	29° 9'35.5"N	68°29' 2.4"E	19.75
ZIN_21	End	29°20'13.2"N	68°30'23.5"E	
ZIN_22	Start	29° 4'48.5"N	68°36'45.7"E	28.6
ZIN_22	End	29°19'43.3"N	68°41'15.6"E	
ZIN_23	Start	29°11'22.0"N	68°20'36.1"E	19.54
ZIN_23	End	29°20'10.7"N	68°27'14.5"E	
ZIN_24	Start	29°13'10.0"N	68°14' 7.5"E	18.31
ZIN_24	End	29°20'38.5"N	68°21'33.9"E	
ZIN_25	Start	29° 1'30.0"N	68°40'25.0"E	36.09
ZIN_25	End	29°20'12.2"N	68°46'39.2"E	
ZIN_26	Start	29°19'37.2"N	68°17' 6.7"E	26.08
ZIN_26	End	29°13' 6.2"N	68°31'24.4"E	
ZIN_27	Start	29° 2' 1.7"N	68°49'32.0"E	30.15
ZIN_27	End	29° 7'46.8"N	68°32'10.4"E	
ZIN_28	Start	29° 9' 2.5"N	68°59'40.5"E	20.3
ZIN_28	End	29°20' 1.6"N	68°59'47.6"E	
ZIN_29	Start	29° 9'57.4"N	68°55' 2.9"E	17.61
ZIN_29	End	29°19'28.0"N	68°55'10.3"E	
ZIN_30	Start	29° 5'29.5"N	69° 6'12.7"E	25.97
ZIN_30	End	29°19'21.2"N	69° 3'39.9"E	
ZIN_31	Start	29°14'19.3"N	68°26' 4.1"E	65.67
ZIN_31	End	29°16'22.9"N	69° 6'24.4"E	
<b>Total L. kms</b>				<b>521</b>

## **6- GENERAL TERMS AND CONDITONS**

Contractors will prepare their bid in two parts i.e. technical proposal (part-I) and financial proposal (part-II) strictly in line with the instructions given in the TOR.

The contractor shall be required to comply with and conduct all operations in accordance with all applicable laws and Government orders, rules and regulations of Pakistan and of the Political Sub-Division in which work is to be performed including, but not limited to income tax laws and regulations, and working hours laws, safety rules and any regulations pertaining to the conduct of seismic operations in Pakistan.

### **7. TECHNICAL PROPOSAL**

7.1 The Technical Proposal of bidder should include the following documents/information, as the contractor shall have to meet the minimum technical eligibility criteria as per details provided in Schedule B, C & D.

7.2 List and detail CV of Technical personnel's, Expatriate and local proposed to be included in basic operating unit as per Schedule C.

7.3 Technical detail and list of equipment and quantities as per Schedule C.

7.4 List of test and quality standards as detailed in Schedule D.

7.5 Complete/comprehensive schedule of work program

7.6 Detailed reconnaissance report (Scouting Report of the Survey area).

7.7 Documented Experience in similar type of survey areas.

7.8 A copy of their current safety manual, HSE Organization and sample of accident /incident reporting forms, together with details of their safety record for the past two years.

7.9 EHS exceptions e. g .Emergency Response Plan, Medical arrangements, camp clinics, field magazine and security etc.

7.10 Copy of all crew operational procedures for land and transition zone operations.

7.11 The Checklist at Annexure-I must be provided in the Technical proposal.

7.12 Technical Performa to be filled by the bidder in Annexure –II.

Note:-Technical Evaluation criteria are mentioned in Annexure –III.

## **8. FINANCIAL PROPOSAL**

Bidder should quote their charges in the financial bid strictly in accordance with the Schedule E.