GM-BKM-SAS
Diary No:536
In.....
Out.8/5/12

Information required for Forest Clearance
(Available location ELAJ of UAS Block, A&AA Basin)

III. **ELAJ:** The location ELAJ (proposed as G-EL-B) is proposed to be drilled upto 2300(TVDSS)m targeting Sylhet as primary and Kopili and Basement as secondary objectives. G-EL-B is proposed as vertical well on a fault closure in East Lakhibari Extn. PML to probe hydrocarbon potential of Sylhet, Basement & Kopili towards south-east of EL-1 Structure with a target depth of 2300mMD. The closure is against the east heading fault and the eastern limit of the structure is bounded by another east heading fault. The structure forms a horst block bounded by normal faults in north and south direction. G-EL-B has got good basement exploration component. Detailed Automatic Fault extraction study brings out areas of considerable fracture density favourable for basement exploration. With multiple target bodies, calibration of target sands with producing wells, impedance response, and good aerial extent of individual bodies points towards a very high confidence of success with lower risk

Sr. No.	Location	Objective	Area (Sq.Km)			Pay Thickness (m)			IOIP (MMt)		
			Min	Most Likely	Max	Min	Most Likely	Max	P90	Mean	P10
1	GEL-B	Sylhet (P)	0.48	0.52	0.56	12	15	20	0.52	0.62	0.73
		Basement(S)	0.42	0.45	0.48	15	20	25	0.02	0.03	0.05
		Kopili (S)	0.49	0.51	0.53	16	18	20	0.69	0.76	0.83

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Input Parameters:

Prospect :	G-EL-B		
Target Depth	2300m		
Play	Primary (Sylhet)		
Parameter	Minimum	Most likely	Maximum
Area Sqkm	0.45	0.52	0.60
Net pay (m)	12.00	15.00	20.00
Porosity %	16.00	18.0	20.0
Oil saturation %	47	53	55
Sp.Gr.		0.93	
FVF		1.14	
RF %	15	20	25
Play	Secondary 1 (Basement)		
Parameter	Minimum	Most likely	Maximum
Area Sqkm	0.40	0.45	0.50
Net pay (m)	15.00	20.00	25.00
Porosity %	1.00	2.5	4.0
Oil saturation %	100	100	100
Sp.Gr.		0.83	
FVF		1.14	
RF %	15	20	22
Play	Secondary 2 (Lower Kopili)		
Parameter	Minimum	Most likely	Maximum
Area Sqkm	0.48	0.50	0.55
Net pay (m)	16	18	20
Porosity %	22	24	26
Oil saturation %	47	53	55
Sp.Gr.		0.85	
FVF		1.27	
RF %	20	22	24

Reserves:

PROSPECT	G-EL-B				
TD	2300m				
Play depth	1930m				
	Probability	IOIP (MMt)	RES (MMt)	RES : MMbbl	Area (Sq. km)
Primary (Sylhet)	P-90	0.52	0.10	0.67	0.48
	Mean	0.62	0.12	0.84	0.52
	P-10	0.73	0.15	1.03	0.56
Play Depth	2000m				
	Probability	IOIP (MMt)	RES (MMt)	RES : MMbbl	Area (Sq. km)
Secondary 1 (Basement)	P-90	0.11	0.02	0.16	0.42
	Mean	0.16	0.03	0.25	0.45
	P-10	0.22	0.05	0.34	0.48
Play Depth	1860m				
	Probability	IOIP (MMt)	RES (MMt)	RES : MMbbl	Area (Sq. km)
Secondary 2 (Lower Kopili)	P-90	0.69	0.15	1.12	0.49
	Mean	0.76	0.17	1.24	0.51
	P-10	0.83	0.18	1.37	0.53
	Total	1.55	0.32	2.33	

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Technical Assumptions & Input Parameters:

PROSPECT	G-EL-B
WATER DEPTH (M)	Onshore
PLAY	Sylhet (Primary)
HC TYPE (OIL / GAS)	Oil
PLAY TOP (M)	1930 -Sylhet (Primary)
AERIAL EXTENT (SQ.KM)	0.52
OIIP(Total) - MMt (Mean)	0.62
ULT. RES(Total) - MMT/MMBBL (Mean)	0.12/0.84
DISCOVERY PROBABILITY (%)	30
PRODUCTION PROFILE	
PEAK WELL FLOW/ DAY (MBBL)	0.566
PLATEAU RATE (FIELD) / DAY (MBBL)	0.566
YEARS TO PLATEAU	0
PLATEAU	1
FIELD PRODUCING LIFE	7
EXPLRN. / APPRAISAL / ENGINERING	
NO. OF EXPL + APPRAISAL WELLS	1
NO. OF PRODUCERS	1 (exploratory well converted to producer)
DVLPMT. SCENARIO	Wellpad group to existing main production facility
PIPELINE LENGTH (Km)	3.4
REMARKS	Primary pay is considered for TE analysis

Economic Indicators and Estimated Expenditures:

Prospects		G-EL-B
Hydrocarbon Type		Oil
Price Scenario	$ / BBl	**65**
Total Reserves	MMBbl	**0.84**
Estimated Expenditure		
Operating Expenses	MM $	3.74
Exploration Capital	MM $	5.44
Development Capital	MM $	2.94
Other Capital	MM $	0.00
Life Cycle Cost	**MM $**	**12.12**
Unit Operating Expenses	$ / Bbl	4.45
Unit Exploration Capital	$./ Bbl	6.48
Unit Development Capital	$ / Bbl	3.50
Unit Other Capital	$ / Bbl	0.00
Unit Life Cycle Cost	$ / Bbl	**14.43**
Producing Life	Years	7
Project Life	Years	9
Economic Indicators		
After Tax Rate Of Return	%	**39.90**
NPV@ 0%	MM $	15.27
NPV@ 5%	MM $	10.33
NPV@ 8%	MM $	8.17
NPV@ 10%	MM $	6.97
NPV@ 12%	MM $	**5.94**
EMV@0%	MM $	2.10
EMV@5%	MM $	**0.85**
Risk Money	MM $	**3.54 (after IT rebate of MM $ 1.9)**
Discovery Probability (Pg)	%	30
Remarks :		Economic analysis has been carried out considering prevailing APM terms like: CESS on oil @ 20% cum cess basis, NCD Rs 50/ton, Royalty @ 20% of well head value with 18% GST and Corporate IT @ 34.94 %. Risk money is exploratory well cost MM $ 3.54 (after IT rebate of MM $ 1.9).

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Sensitivity :

Prospect :	G-EL-B							
SENSITIVITY ON OIL PRICE								
Variation		-30%	-20%	-10%	0	10%	20%	30%
Variation in Price	$/Bbl	45.5	52	58.5	65	71.5	78	84.5
NPV @ 10%	MM$	3.02	4.34	5.66	6.97	8.28	9.59	10.9
NPV @12%	MM$	2.37	3.57	4.76	5.94	7.12	8.3	9.48
IRR	%	24.3	29.84	35.06	39.9	44.37	48.74	52.92
SENSITIVITY ON CAPEX								
Variation in CAPEX		-30%	-20%	-10%	0	10%	20%	30%
NPV @ 10%	MM$	8.42	7.94	7.46	6.97	6.49	6	5.51
NPV @12%	MM$	7.35	6.88	6.41	5.94	5.47	5	4.51
IRR	%	56.6	49.93	44.53	39.9	35.9	32.45	29.27
SENSITIVITY ON OPEX								
Variation in OPEX		-30%	-20%	-10%	0	10%	20%	30%
NPV @ 10%	MM$	7.36	7.23	7.1	6.97	6.84	6.72	6.59
NPV @12%	MM$	6.29	6.17	6.06	5.94	5.83	5.71	5.6
IRR	%	41.09	40.7	40.3	39.9	39.49	39.08	38.67

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