

COMPARATIVE STATEMENT

Date : 16.03.2022

Tender No. GAIL/NOIDA/C&P/E&P/2021-22/150 (e Tender Id. 2021_GAIL_98133_1)

Subject . Hiring of Services for Coring Analysis for E&P Block CB-ONHP-2017/12

Date of PBO : 16.03.2022

S. No.	Description of item	UOM	Qty.	ESTIMATE		M/S. STRATUM RESERVOIR INDIA LLP					AHR items
				Unit Price incl GST	Total price incl GST	Unit rate excl. GST	Total price excl GST	GST (%)	Total GST Amount	Total Quoted Price inclusive of	
A	Equipment and Personnel for Field Core Processing -Mobilization and demobilization charges										
A.1	Mobilization of Field Unit and all other equipments eg. Core jandling equipment, gas desorption	1	LS	3,15,000.00	3,15,000.00	1,83,750.00	1,83,750.00	12%	22,050.00	2,05,800.00	No
A.2	De-mobilization of Field unit & all other equipments	1	LS	3,15,000.00	3,15,000.00	2,81,250.00	2,81,250.00	12%	33,750.00	3,15,000.00	No
A.3	Standby rate of Field Unit and all other equipments	10	Day	63,000.00	6,30,000.00	9,000.00	90,000.00	12%	10,800.00	1,00,800.00	No
A.4	Core Gas Desorption and conventional core handling Equipment including - cut off saw, wax bath, spectral gamma and plugging machine and stabilization gun -Operating Rate at well site	4	Day	20,160.00	80,640.00	15,000.00	60,000.00	12%	7,200.00	67,200.00	No
A.5	Mobilization charges for personnel - 3 personnel	2	LS	1,00,800.00	2,01,600.00	67,500.00	1,35,000.00	12%	16,200.00	1,51,200.00	No
A.6	Daily Rental for Personnel - 3 personnel	10	Day	1,00,800.00	10,08,000.00	90,000.00	9,00,000.00	12%	1,08,000.00	10,08,000.00	No
A.7	De-mobilization charges for personnel - 3 personnel	2	LS	1,00,800.00	2,01,600.00	67,500.00	1,35,000.00	12%	16,200.00	1,51,200.00	No
B	Field Core Processing										No
B.1	Core handling, marking, orientation, preparation (cutting) into 1-mtr sections or similar and packing, core end photography including rubber caps and clamps	18	m	1,512.00	27,216.00	1,350.00	24,300.00	12%	2,916.00	27,216.00	No
B.2	Running Hand Held Core Gamma (Total and Spectral)	9	m	1,260.00	11,340.00	750.00	6,750.00	12%	810.00	7,560.00	No
B.3	Foam Stabilization	9	m	12,600.00	1,13,400.00	9,000.00	81,000.00	12%	9,720.00	90,720.00	No
B.4	Cutting Horizontal or Vertical plugs from consolidated core (1" or 1.5" dia) using air/water and preservation using Wrap & Seal technique in molten strippable coating	18	EA	1,260.00	22,680.00	975.00	17,550.00	12%	2,106.00	19,656.00	No
B.5	Core Boxes (Standard tin boxes to store 1m length of whole/slabbed core)	18	EA	3,360.00	60,480.00	2,700.00	48,600.00	12%	5,832.00	54,432.00	No
B.6	Canister Desorption Studies at Reservoir/Avg. Mud Temperature (including Field lithology description and photography of Core before placing in cannister)	3	EA	46,200.00	1,38,600.00	41,250.00	1,23,750.00	12%	14,850.00	1,38,600.00	No
B.7	Composition Analysis of Desorbed Gases inclusive of gas content Gas sampling bags/syringes/1-Tubes	9	Day	5,040.00	45,360.00	4,050.00	36,450.00	12%	4,374.00	40,824.00	No
B.8	Wax preservation of 1 m whole core sample (Rental included)	18	Day	3,024.00	54,432.00	1,500.00	27,000.00	12%	3,240.00	30,240.00	No
B.9	Transportation of all Cores from well site to Contractor's base lab in India using Standard Core transportation boxes	1	LS	1,00,800.00	1,00,800.00	90,000.00	90,000.00	12%	10,800.00	1,00,800.00	No
B.10	Transportation of all Cores from Contractor's base lab to GAIL's base in India for Core storage facility	1	LS	1,00,800.00	1,00,800.00	90,000.00	90,000.00	12%	10,800.00	1,00,800.00	No
C	Conventional and Unconventional Core Analysis (Lab)										
C.1	Spectral Gamma Ray Logging of Cores	18	m	1,680.00	30,240.00	1,125.00	20,250.00	12%	2,430.00	22,680.00	No
C.2	Core extrusion from Inner Core Barrel (cleaning, orientation and marking)	18	m	210.00	3,780.00	150.00	2,700.00	12%	324.00	3,024.00	No
C.3	Core Slabbing (2/3; 1/3; 1/4; 3/4) sections with water/KCL water	18	m	2,016.00	36,288.00	1,125.00	20,250.00	12%	2,430.00	22,680.00	No
C.4	Core Photography (Both UV light and White light)	18	m	4,536.00	81,648.00	3,000.00	54,000.00	12%	6,480.00	60,480.00	No
C.5	Core Plug Photography - Top and side view per plug	36	EA	1,680.00	60,480.00	1,500.00	54,000.00	12%	6,480.00	60,480.00	No
C.6	CT Scanning of Cores (02 transverse sections, unless otherwise stated)	18	m	10,080.00	1,81,440.00	8,250.00	1,48,500.00	12%	17,820.00	1,66,320.00	No
C.7	CT scanning of core plugs (assume two transverse scans unless otherwise stated)	24	EA	4,200.00	1,00,800.00	3,000.00	72,000.00	12%	8,640.00	80,640.00	No
C.8	Cutting and Preservation of Core Plugs	10	EA	1,512.00	15,120.00	1,350.00	13,500.00	12%	1,620.00	15,120.00	No
C.9	Plug Drilling and Trimming - Vertical and Horizontal (competent cores) with Water/Air/Brine/mineral oil	36	EA	1,008.00	36,288.00	750.00	27,000.00	12%	3,240.00	30,240.00	No
C.10	Specialized Rock Mechanics plugging using isopar	6	EA	4,536.00	27,216.00	4,050.00	24,300.00	12%	2,916.00	27,216.00	No
C.11	Preservation of vertical and horizontal plugs after cutting. Wrap & Seal technique in molten strippable coating (wax dipping).	36	EA	840.00	30,240.00	750.00	27,000.00	12%	3,240.00	30,240.00	No
C.12	Mount plugs in metal/teflon sleeves	24	EA	1,680.00	40,320.00	1,125.00	27,000.00	12%	3,240.00	30,240.00	No

Prepared By

Checked By

Vetted By

S. No.	Description of item	UOM	Qty.	ESTIMATE		M/S. STRATUM RESERVOIR INDIA LLP					AHR items
				Unit Price incl GST	Total price incl GST	Unit rate excl. GST	Total price excl GST	GST (%)	Total GST Amount	Total Quoted Price inclusive of	
C.13	Plug cleaning with standard solvents-soxhlet (Hot Toluene /Methanol/Azeotrope) for horizontal and vertical plug samples	36	EA	1,680.00	60,480.00	1,500.00	54,000.00	12%	6,480.00	60,480.00	No
C.14	Convection oven drying of plug	36	EA	336.00	12,096.00	225.00	8,100.00	12%	972.00	9,072.00	No
C.15	Cooled solvent cleaning of plug	9	EA	2,520.00	22,680.00	2,250.00	20,250.00	12%	2,430.00	22,680.00	No
C.16	Sample flush cleaning	9	EA	40,320.00	3,62,880.00	27,000.00	2,43,000.00	12%	29,160.00	2,72,160.00	No
C.17	Humidity oven drying cleaning of plug	18	EA	336.00	6,048.00	300.00	5,400.00	12%	648.00	6,048.00	No
C.18	Dean Stark (water and oil saturations) including grain density and ambient porosity cleaning of plug	18	EA	3,024.00	54,432.00	2,700.00	48,600.00	12%	5,832.00	54,432.00	No
C.19	Grain Density and Ambient Porosity (includes bulk volume measurement) cleaning of plug	36	EA	3,024.00	1,08,864.00	2,700.00	97,200.00	12%	11,664.00	1,08,864.00	No
C.20	Air permeability (ambient)	27	EA	3,024.00	81,648.00	2,700.00	72,900.00	12%	8,748.00	81,648.00	No
C.21	Helium injection porosity (NOBP)	27	EA	3,360.00	90,720.00	2,700.00	72,900.00	12%	8,748.00	81,648.00	No
C.22	Air permeability (NOBP)	27	EA	3,360.00	90,720.00	2,700.00	72,900.00	12%	8,748.00	81,648.00	No
C.23	Klinkenberg permeability (ambient)	27	EA	5,040.00	1,36,080.00	4,500.00	1,21,500.00	12%	14,580.00	1,36,080.00	No
D	Unconventional Core Analysis (LABS) - Shale/Tight Reservoirs										
D.1	Adsorption Isotherm studies (6-Point 0.0 degree C to 85.0 degree C and pressure less than 5000 psi).	2	EA	2,26,800.00	4,53,600.00	1,80,000.00	3,60,000.00	12%	43,200.00	4,03,200.00	No
D.2	Surcharge for mid-temperature shale Adsorption Isotherm (6-Point 85 degree C to 115 degree C and pressure less than 5000 psi)	1	EA	63,000.00	63,000.00	48,750.00	48,750.00	12%	5,850.00	54,600.00	No
D.3	Surcharge for high-temperature shale Adsorption Isotherm (6-Point 115 degree C to 150 degree C and pressure greater than 5000 psi)	1	EA	1,00,800.00	1,00,800.00	86,250.00	86,250.00	12%	10,350.00	96,600.00	No
D.4	Shale Rock Properties Analysis Package-A-R Bulk density, A-R water saturation, A-R oil saturation, A-R gas filled porosity, A-R press decay permeability, dry bulk density, dry grain density, dry helium porosity(total porosity)	3	EA	82,320.00	2,46,960.00	58,800.00	1,76,400.00	12%	21,168.00	1,97,568.00	No
E	Special Core analysis (SCAL)										
E.1											
E.1.1	Stock tank Fluid preparation (includes Density and Viscosity) (5 LIT)	1	EA	21,000.00	21,000.00	18,750.00	18,750.00	12%	2,250.00	21,000.00	No
E.1.2	Synthetic brine preparation and filtered and Measure brine densities, resistivity and viscosities (5 liters)	2	EA	30,240.00	60,480.00	22,950.00	45,900.00	12%	5,508.00	51,408.00	No
E.2											
E.2.1	Mercury Injection capillary pressure and Pore Size distribution, Drainage multi-point, 60000 psia maximum	2	EA	33,600.00	67,200.00	22,500.00	45,000.00	12%	5,400.00	50,400.00	No
E.2.2	Autopore - imbibition curve 0-60000 psi	2	EA	33,600.00	67,200.00	22,500.00	45,000.00	12%	5,400.00	50,400.00	No
E.3											
E.3.1	Sample saturation with Synthetic brine.	2	EA	8,400.00	16,800.00	7,500.00	15,000.00	12%	1,800.00	16,800.00	No
E.3.2	Water permeability measurements at ambient condition	2	EA	15,120.00	30,240.00	15,300.00	30,600.00	12%	3,672.00	34,272.00	No
E.3.3	Formation Factor at ambient condition (unconfined) to validate ionic equilibrium	2	EA	16,800.00	33,600.00	18,750.00	37,500.00	12%	4,500.00	42,000.00	No
E.3.4	Formation Factor at one overburden pressure (determination of 'm')	2	EA	30,240.00	60,480.00	24,750.00	49,500.00	12%	5,940.00	55,440.00	No
E.3.5	Formation Factor to Determine Cementation Exponent (m) and Porosity Compaction (PCF) at 4 stress stations	2	EA	40,320.00	80,640.00	46,800.00	93,600.00	12%	11,232.00	1,04,832.00	No
E.3.6	Resistivity Index at overburden pressure (determination of 'n')	2	EA	57,120.00	1,14,240.00	67,500.00	1,35,000.00	12%	16,200.00	1,51,200.00	No
E.3.7	Resistivity Index in conjunction with Porous Plate Capillary Pressure Drainage at overburden pressure (determination of 'n' and Pc)	2	EA	1,00,800.00	2,01,600.00	1,29,375.00	2,58,750.00	12%	31,050.00	2,89,800.00	No
E.3.8	Cation Exchange capacity (CEC) by wet chemistry titration method	2	EA	30,240.00	60,480.00	24,300.00	48,600.00	12%	5,832.00	54,432.00	No
E.3.9	Excess Conductivity: Co-Cw multiple salinity test to determine Qv (3 different salinities)	2	EA	45,360.00	90,720.00	60,000.00	1,20,000.00	12%	14,400.00	1,34,400.00	No
E.4											
E.4.1	Water - Oil Capillary Pressure measurement (at Swi, initialization using Porous Plate)	2	EA	67,200.00	1,34,400.00	60,000.00	1,20,000.00	12%	14,400.00	1,34,400.00	No

S. No.	Description of item	UOM	Qty.	ESTIMATE		M/S. STRATUM RESERVOIR INDIA LLP					AHR items
				Unit Price incl GST	Total price incl GST	Unit rate excl. GST	Total price excl GST	GST (%)	Total GST Amount	Total Quoted Price inclusive of	
E.4.2	Water-oil Capillary Pressure measurement (Centrifuge)	3	EA	75,600.00	2,26,800.00	1,12,500.00	3,37,500.00	12%	40,500.00	3,78,000.00	Yes
E.4.3	Amott Test	3	EA	1,26,000.00	3,78,000.00	1,12,500.00	3,37,500.00	12%	40,500.00	3,78,000.00	No
E.5											No
E.5.1	Primary Drainage Relative Permeability	1	EA	1,34,400.00	1,34,400.00	90,000.00	90,000.00	12%	10,800.00	1,00,800.00	No
E.5.2	Dead Oil Ageing	1	EA	55,440.00	55,440.00	37,500.00	37,500.00	12%	4,500.00	42,000.00	No
E.5.3	Live Oil Ageing (optional)	1	EA	3,02,400.00	3,02,400.00	2,29,500.00	2,29,500.00	12%	27,540.00	2,57,040.00	No
E.5.4	Imbibition Relative Permeability	1	EA	1,34,400.00	1,34,400.00	90,000.00	90,000.00	12%	10,800.00	1,00,800.00	No
E.5.5	Residual Gas by Counter Current Imbition	1	EA	67,200.00	67,200.00	60,000.00	60,000.00	12%	7,200.00	67,200.00	No
E.5.6	Canister Desorption Studies at Reservoir/Avg. Mud Temperature (including Field lithology description and photography of Core before placing in cannister)	1	EA	2,26,800.00	2,26,800.00	0.00	0.00	12%	0.00	0.00	No
E.5.7	Counter current imbibition	2	EA	46,200.00	92,400.00	41,250.00	82,500.00	12%	9,900.00	92,400.00	No
E.5.8	Simulation of relative permeability curves from laboratory generated relative permeability data (capillary pressure data may be required)	2	EA	2,01,600.00	4,03,200.00	1,35,000.00	2,70,000.00	12%	32,400.00	3,02,400.00	No
F	Geochemical Studies										No
F.1	Compositional analysis of mud gas and headspace gas	5	EA	4,536.00	22,680.00	4,050.00	20,250.00	12%	2,430.00	22,680.00	No
F.2	Sample Preparation (including handling, inventory, inspection, splitting, pulverizing, washing and removal of contaminants)	5	EA	1,008.00	5,040.00	675.00	3,375.00	12%	405.00	3,780.00	No
F.3	Total Organic Carbon by LECO	5	EA	4,536.00	22,680.00	3,600.00	18,000.00	12%	2,160.00	20,160.00	No
F.4	Programmed pyrolysis by Rock Eval/SRA	5	EA	4,536.00	22,680.00	3,600.00	18,000.00	12%	2,160.00	20,160.00	No
F.5	Vitritine Reflectance of whole rock (package)	5	EA	48,720.00	2,43,600.00	33,750.00	1,68,750.00	12%	20,250.00	1,89,000.00	No
F.6	Methane through C7+ and Determination of N2, CO2 and H2S	5	EA	12,600.00	63,000.00	9,900.00	49,500.00	12%	5,940.00	55,440.00	No
F.7	Carbon Isotope Composition of C1, C2, C3, iC4, C4 and CO2	1	EA	53,760.00	53,760.00	43,500.00	43,500.00	12%	5,220.00	48,720.00	No
F.8	Liquid Chromatographic Separation (LPLC) of Saturated Hydrocarbons, Aromatic Hydrocarbons, Resin and Asphaltene Compounds	2	EA	16,800.00	33,600.00	11,250.00	22,500.00	12%	2,700.00	25,200.00	No
F.9	Finger Print Analysis, Gas Chromatography of C10+ Saturated Hydrocarbons or C6+ Whole Extract (includes determination of n-alkane distribution, isoprenoid distribution, pristane/phytane ratio and Carbon Preference Index)	2	EA	25,200.00	50,400.00	22,500.00	45,000.00	12%	5,400.00	50,400.00	No
F.10	Gas chromatography/Mass spectrometry (GC/MS) of Steranes, Terpanes and Drimanenes (includes Peak Identification, calculation of relevant ratios, Scanning of up to 20 Mass ions).	2	EA	33,600.00	67,200.00	27,000.00	54,000.00	12%	6,480.00	60,480.00	No
F.11	Gas chromatography/Mass spectrometry (GC/MS) of Aromatics (includes Peak Identification, calculation of relevant ratios, Scanning of up to 20 Mass ions).	2	EA	33,600.00	67,200.00	27,000.00	54,000.00	12%	6,480.00	60,480.00	No
F.12	Age Related biomarkers to be extensively studied (e.g. 18(H) Oleanane, Dinosterane, Tricyclic terpane), nC11-nC19 odd/even preferences to be also reported	2	EA	1,00,800.00	2,01,600.00	1,21,875.00	2,43,750.00	12%	29,250.00	2,73,000.00	No
F.13	Integration and interpretation of analytical data, includes comprehensive reporting with well profiles and graphical displays of data.	2	EA	3,36,000.00	6,72,000.00	2,70,000.00	5,40,000.00	12%	64,800.00	6,04,800.00	No
G	Rock Mechanic Studies										No
G.1	Triaxial Compressive Strength Test-triaxial compressive strength and static Young's modulus and Poisson's ratio at axial strain rate of 5 x 10 -6 per second.	2	EA	1,68,000.00	3,36,000.00	1,20,000.00	2,40,000.00	12%	28,800.00	2,68,800.00	No
G.2	Acoustic Velocity Test-Compressional (P) and shear (S) wave velocities at 1 MHz, dynamic elastic parameters etc in conjunction with Triaxial Compressive Strength Test	2	EA	63,000.00	1,26,000.00	36,000.00	72,000.00	12%	8,640.00	80,640.00	No
G.3	Unconfined Compressive Strength (UCS)	2	EA	67,200.00	1,34,400.00	48,900.00	97,800.00	12%	11,736.00	1,09,536.00	No
G.4	Pore Volume Compressibility	2	EA	2,26,800.00	4,53,600.00	2,10,000.00	4,20,000.00	12%	50,400.00	4,70,400.00	No
G.5	Multistage Triaxial Compressive Strength Test (1-inch or 1.5-inch diameter): 3-stages compressive test with Mohr-Coulomb failure analysis at axial strain rate of 5x10-6 sec-1	2	EA	2,26,800.00	4,53,600.00	1,62,000.00	3,24,000.00	12%	38,880.00	3,62,880.00	No
G.6	Thick Walled Cylinder (TWC)	2	EA	1,51,200.00	3,02,400.00	1,20,000.00	2,40,000.00	12%	28,800.00	2,68,800.00	No
H	Sedimentological Core Description and Geological Studies										

S. No.	Description of item	UOM	Qty.	ESTIMATE		M/S. STRATUM RESERVOIR INDIA LLP					AHR items
				Unit Price incl GST	Total price incl GST	Unit rate excl. GST	Total price excl GST	GST (%)	Total GST Amount	Total Quoted Price inclusive of	
H.1	Detailed Core Description - (Scale 1:50) Preparation of a detailed sedimentological log. Information on log includes documentation of lithologies, textures, fossil assemblages, sedimentary structures, porosity and perm or log data (when available), recommendations of sample candidates for thin section petrography, SEM analysis, and XRD analysis. Sedimentological Integration and interpretation with logs, thin section, SEM and XRD to be provided	18	m	20,160.00	3,62,880.00	13,500.00	2,43,000.00	12%	29,160.00	2,72,160.00	No
H.2	Scanning Electron Microscopy (SEM) - SEM analysis using secondary electron imaging with simultaneous X-ray energy dispersive spectroscopy for elemental analysis. Includes two photomicrographs prepared at varying magnifications documenting rock properties	6	EA	33,600.00	2,01,600.00	25,500.00	1,53,000.00	12%	18,360.00	1,71,360.00	No
H.3	Thin Section Preparation - Standard size slide 27mm x 46mm (approx. 1" x 2") including impregnation with fluorescent-spiked, blue-dyed epoxy at ambient conditions and dual carbonate staining and K-Feldspar Staining (if required)	12	EA	3,360.00	40,320.00	2,700.00	32,400.00	12%	3,888.00	36,288.00	No
H.4	General (Qualitative) Thin Section Description - Qualitative mineralogic and textural	6	EA	20,160.00	1,20,960.00	14,400.00	86,400.00	12%	10,368.00	96,768.00	No
H.5	Detailed Thin Section Analysis- Quantitative compositional analysis of mineral	6	EA	33,600.00	2,01,600.00	25,875.00	1,55,250.00	12%	18,630.00	1,73,880.00	No
H.6	Whole Thin Section Image Mosaics (100X magnification; standard size thin section)	6	EA	8,400.00	50,400.00	7,500.00	45,000.00	12%	5,400.00	50,400.00	No
H.7	XRD Studies-Quantitative analysis of bulk(whole rock) and clay mineralogy. TOC	6	EA	30,240.00	1,81,440.00	22,350.00	1,34,100.00	12%	16,092.00	1,50,192.00	No
H.8	XRF Studies-Elemental Analysis (data only for upto 32 elements)	6	EA	20,160.00	1,20,960.00	13,500.00	81,000.00	12%	9,720.00	90,720.00	No
H.9	LPSA - Extended range LPSA, distribution range 0.0001mm - 2.0 mm, includes tabular & graphical report.	6	EA	12,600.00	75,600.00	11,250.00	67,500.00	12%	8,100.00	75,600.00	No
Total					137,09,136.00		105,78,825.00		12,69,459.00	118,48,284.00	
% Variation										-13.57%	
Inter-se-ranking										Sole Bidder	

Signature Not Verified

Digitally signed by Vinod Kumar Bhat
Date: 2022.03.31 18:39:02 IST
Location: eProcurement System for Central PSUs



Prepared By

Checked By

Vetted By