



**CONTRACT FOR
GULF OF MEXICO
STRATEGIC PERFORMANCE UNIT
OFFSHORE WELL SERVICES**

BETWEEN

BP EXPLORATION AND PRODUCTION, INC.

AND

HALLIBURTON ENERGY SERVICES, INC.

BPM-09-00255



**Section 1 – Agreement
Halliburton for GOM**

AGREEMENT

This CONTRACT is made between the following PARTIES: BP EXPLORATION AND PRODUCTION, INC., a company having its office at 501 WESTLAKE PARK BLVD., HOUSTON, TEXAS 77079 hereinafter called COMPANY and HALLIBURTON ENERGY SERVICES, INC. having its main or registered office at 1401 MCKINNEY STREET, SUITE 2400, HOUSTON, TEXAS 77010 hereinafter called CONTRACTOR. PARTY or PARTIES shall mean individually the COMPANY or CONTRACTOR or collectively as both COMPANY and CONTRACTOR.

WHEREAS:

- 1) COMPANY wishes that the WORK shall be carried out, all as described in the CONTRACT; and
- 2) CONTRACTOR wishes to carry out the WORK in accordance with the terms and conditions of this CONTRACT.
- 3) CONTRACTOR represents that it has the requisite skills, experience and resources to carry out the WORK to the reasonable satisfaction of COMPANY in accordance with the terms and conditions specified herein,

NOW THEREFORE, the PARTIES hereto agree as follows:

- 1) In this CONTRACT all capitalized words and expressions shall have the meanings assigned to them in this AGREEMENT or elsewhere in the CONTRACT.

The following Sections shall form and be read and construed as the CONTRACT:

- | | |
|-----------|---|
| Section 1 | Agreement |
| Section 2 | General Conditions of Contract |
| | <ul style="list-style-type: none">• Appendix 1: Special Conditions of Contract• Appendix 2: Local Tax Provision |
| Section 3 | Scope of Work (including Appendices) |
| | <ul style="list-style-type: none">• Appendix 1: Supplier Performance Management• Appendix 2: WORK ORDER Form• Appendix 3: CHANGE ORDER Form• Appendix 4: SUBCONTRACTORS / CONTRACTOR's Key Personnel• Appendix 5: Description of the WORK• Appendix 6: Functional and Technical Specifications• Appendix 7: Technical Integrity |
| Section 4 | Remuneration (including Appendices) |
| | <ul style="list-style-type: none">• Appendix 1: Special Local Invoicing• Appendix 2: Lost in Hole Charges• Appendix 3: Sub-Sector Terms and Conditions• Appendix 4: Schedule of Rates and Charges |

Section 1 – Agreement

Section 5	Integrity Management
Section 6	Quality Assurance and Quality Control
Section 7	Health, Safety, Security, and the Environment (including applicable Appendices) <ul style="list-style-type: none">• Appendix 1: Getting HSE Right (GHSER)• Appendix 2: BP's Golden Rules for Safety• Appendix 3: Substance Abuse Policy• Appendix 4: Scope Specific HSSE Issues• Appendix 5: Minimum HSSE Requirements
Section 8	Code of Conduct

- 2) The Sections shall be read as one document, the contents of which, in the event of ambiguity or contradiction between Sections, shall be given precedence in the order listed, with the exception that the Special Local Conditions of Contract as stated in Appendix 1 to Section 2 – Special Conditions of Contract shall take precedence over the General Conditions of Contract.
- 3) In accordance with the terms and conditions of the CONTRACT, CONTRACTOR shall perform and complete the WORK and COMPANY shall pay the CONTRACT PRICE.
- 4) The EFFECTIVE DATE OF THE CONTRACT shall be April 15, 2009. Notwithstanding the EFFECTIVE DATE of the CONTRACT, the WORK is scheduled to commence on the date specified in each individual WORK ORDER issued pursuant to the provisions of Section 3 ("COMMENCEMENT DATE") and shall continue until completed to the reasonable satisfaction of COMPANY. Subject to the terms and conditions contained in Section 2 – General Conditions of Contract, the CONTRACT duration shall be for a term of three (3) years from the EFFECTIVE DATE OF THE CONTRACT. COMPANY shall have the option to extend this CONTRACT for up to two (2) consecutive one year options following the expiration of the three (3) year term.
- 5) This CONTRACT constitutes the entire agreement between the PARTIES hereto with respect to the WORK and supersedes all prior negotiations, representations, or agreements related to the CONTRACT, either written or oral. No amendments to the CONTRACT shall be effective unless evidenced in writing and signed by the PARTIES to the CONTRACT.

The authorized representatives of the PARTIES have executed the CONTRACT in duplicate upon the dates indicated below:

For COMPANY

Name: *Wilbert L. Jr.*

Title: *CPO*

Date: *4/15/09*

For CONTRACTOR

Name: *DAVID S. King*

Title: *DIVISION PRESIDENT*

Date: *4/16/09*

Section 1 – Agreement

Section 3 – Scope of Work

Section 3 – Scope of Work

Table of Contents

1.0	GENERAL	3
2.0	THE WORK	3
3.0	PERSONNEL	5
4.0	EQUIPMENT	6
5.0	TRANSPORTATION OF EQUIPMENT AND MATERIALS	8
6.0	FACILITIES	9
7.0	SPECIFICATIONS AND PROCEDURES	10
8.0	COMPANY'S GENERAL OBLIGATIONS	10
	Appendix 1 – Supplier Performance Management	11
	Appendix 2 – WORK ORDER	18
	Appendix 3 – CHANGE ORDER	20
	Appendix 4 – SUBCONTRACTORS / CONTRACTOR's Key Personnel	22
	A. Cementing Services	23
	B. Fluids Services	25
	C. Well Placement	28
	D. Wireline Services	29
	E. Completions	30
	Appendix 5 – Description of the Work	32
	A. Cementing Services	33
	B. Fluids Services	67
	C. Well Placement	87
	D. Wireline Services	160
	G. Completions	169
	Appendix 6 – Functional and Technical Specifications	191
	A. Cementing Services	192
	B. Fluids Services	195
	C. Well Placement	196
	D. Wireline Services	225
	E. Completions	226
	Appendix 7 – Technical Integrity	321
	A. Cementing Services	322
	B. Fluids Services	329
	C. Well Placement	330
	D. Wireline Services	331
	E. Completions	339

Section 3 – Scope of Work

1.0 GENERAL

- 1.1 CONTRACTOR has been selected for the performance of the WORK on the understanding that it is qualified in the class of work involved and that CONTRACTOR shall exercise all reasonable skill, care, and diligence in the performance of the WORK and shall carry out the WORK in accordance with the requirements of the CONTRACT and to internationally recognized good oilfield practices and standards.
- 1.2 The WORK which is to be provided by CONTRACTOR shall comprise but not necessarily be limited to, the provision of management, engineering, supervision, labor, plant, equipment, and materials to support COMPANY's operations, all as generally described herein.

2.0 THE WORK

- 2.1 COMPANY may from time to time request CONTRACTOR to carry out certain work or services, or provide supplies, equipment, or materials in accordance with the terms of the CONTRACT as more specifically defined in each job request issued by COMPANY ("WORK ORDER"). A WORK ORDER shall mean any of the following document types issued pursuant to this CONTRACT either on paper or electronic form.
- 2.1.1 WORK ORDER Template, as set forth by example in Section 3, Appendix 2 – WORK ORDER. Other written forms of this template are acceptable so long as it provides sufficient detail, including as a minimum:
- identification of CONTRACTOR
 - reference to the CONTRACT number
 - the date of the WORK ORDER
 - details of the WORK to be performed
 - any other terms the PARTIES deem appropriate
- 2.1.2 Specific direction / instruction to CONTRACTOR to proceed with WORK via e-mail, or an otherwise electronically transmitted Microsoft Word or Excel document with the same minimum requirements as noted in Clause 2.1.1 herein above. Said direction / instruction to CONTRACTOR shall require electronic acknowledgement of receipt as well as acceptance from CONTRACTOR in order to be deemed to be a WORK ORDER.
- 2.1.3 Pursuant to a verbal request by COMPANY to initiate WORK under this CONTRACT, a request by CONTRACTOR to proceed with WORK shall be presented to COMPANY via e-mail, or an otherwise electronically transmitted Microsoft Word or Excel document with the same minimum requirements as noted in Clause 2.1.1 herein above. Said request made by CONTRACTOR shall require electronic acknowledgement of receipt as well as acceptance from COMPANY in order to be deemed to be a WORK ORDER.
- 2.1.4 Purchase Orders for the procurement of materials that includes sufficient details, including as a minimum:
- identification of CONTRACTOR
 - reference to the CONTRACT number
 - the date of the Purchase Order
 - details of the materials to be procured
 - any other terms the PARTIES deem appropriate

Section 3 – Scope of Work

2.1.5 Nothing contained in a WORK ORDER, in any acceptable format, shall be construed as an Amendment to the terms of the CONTRACT. Accordingly, WORK ORDERS, in any acceptable format, shall NOT be used to add new services, equipment, or materials to the CONTRACT, all of which may only be added to the CONTRACT by formal Amendment.

2.2 It is agreed and understood that COMPANY is not obligated to request WORK hereunder, and that CONTRACTOR is not obligated to accept any WORK ORDER issued by COMPANY hereunder; however, COMPANY and CONTRACTOR agree that the following general provisions shall at all times apply to and control all WORK which may be conducted or carried out by CONTRACTOR for COMPANY under any WORK ORDER until such WORK ORDER is cancelled. With respect to WORK performed under this CONTRACT, the Schedule of Rates and Charges in Section 4 – Remuneration, shall apply.

CONTRACTOR shall use reasonable commercial efforts during the term of the CONTRACT or any WORK ORDER, to ensure that the costs of the final completion of the WORK shall not exceed the estimate. In the event that the WORK is performed on an unsupervised basis, e.g., rental tools, COMPANY and CONTRACTOR will jointly monitor costs for expenditure tracking. If CONTRACTOR determines that the estimate is likely to be exceeded, CONTRACTOR shall promptly notify COMPANY of the same and provide an estimate of the additional cost. Such notification shall constitute a request for a CHANGE ORDER to revise the original estimate. Upon receipt of such notice, COMPANY shall promptly (1) issue a CHANGE ORDER revising the original estimate before such estimate is exceeded or (2) release CONTRACTOR's personnel and equipment. However, in no event shall CONTRACTOR make or incur total expenditures and charges for the WORK in excess of such estimates unless and until a written request is approved by COMPANY.

2.3 From time to time COMPANY may clarify, modify, expand, or reduce the scope of the WORK ORDER by a CHANGE ORDER. CONTRACTOR will comply with instructions in such CHANGE ORDER. A CHANGE ORDER shall mean any of the following document types issued pursuant to this CONTRACT either on paper or electronic form.

2.3.1 CHANGE ORDER Template, as set forth by example in Section 3, Appendix 3 – CHANGE ORDER. Other written forms of this template are acceptable so long as they provide sufficient detail, including as a minimum:

- identification of CONTRACTOR
- reference to the CONTRACT number
- reference to the WORK ORDER number
- the date of the CHANGE ORDER
- details of the changes to the WORK to be performed
- any other terms the PARTIES deem appropriate

2.3.2 Specific direction / instruction to CONTRACTOR to change the WORK ORDER via e-mail, or an otherwise electronically transmitted Microsoft Word or Excel document with the same minimum requirements as noted in Clause 2.3.1 herein above. Said direction / instruction to CONTRACTOR shall require electronic acknowledgement of receipt as well as acceptance from CONTRACTOR in order to be deemed to be a CHANGE ORDER.

2.3.3 Pursuant to a verbal request by COMPANY to change the WORK ORDER under this CONTRACT, a request by CONTRACTOR to proceed with WORK shall be presented to COMPANY via e-mail, or an otherwise electronically transmitted Microsoft Word or Excel document with the same minimum requirements as noted in

Section 3 – Scope of Work

Clause 2.3.1 herein above. Said request made by CONTRACTOR shall require electronic acknowledgement of receipt as well as acceptance from COMPANY in order to be deemed to be a CHANGE ORDER.

- 2.3.4 Nothing contained in a CHANGE ORDER, in any acceptable format, shall be construed as an Amendment to the terms of the CONTRACT. Accordingly, CHANGE ORDERS, in any acceptable format, shall NOT be used to add new services, equipment, or materials, to the CONTRACT, all of which may only be added to the CONTRACT by formal Amendment.
- 2.4 The provision, utilization, and management of the WORK shall be the sole responsibility of CONTRACTOR always accepting that CONTRACTOR shall meet the Scope of Work. The WORK shall be provided in accordance with the service specific requirements contained in this Section 3.
- 2.5 CONTRACTOR shall liaise with, and ascertain from COMPANY, all forward programming and planning information for COMPANY's well operations to enable CONTRACTOR to provide all the resources required to meet its obligations under the CONTRACT. CONTRACTOR shall be solely responsible for ensuring that personnel, equipment, and all other items are provided so that no disruption occurs to the well operation.
- 2.6 CONTRACTOR shall seek out expertise from within CONTRACTOR's organization, COMPANY's organization, and from Third Parties to enable CONTRACTOR to maximize operating performance. Said involvement of Third Parties for purposes of this Clause shall not be for COMPANY's account or reimbursable under the provisions of Section 4 – Remuneration.
- 2.7 CONTRACTOR shall pro-actively monitor, evaluate, and promote the use of new technology to improve cost effectiveness and add value to the WORK.
- 2.8 COMPANY is committed to making its technology and knowledge of 'best practices' available to CONTRACTOR. It is expected that CONTRACTOR will avail itself of this opportunity to use COMPANY data and knowledge in the course of the CONTRACT. Likewise, it is expected that CONTRACTOR will provide to COMPANY its knowledge of industry best practices and technology.
- 2.9 CONTRACTOR shall provide an organization to plan, monitor, and optimize the performance of the WORK in full compliance with the requirements of COMPANY. This shall include, but not be limited to, the management of CONTRACTOR's and SUBCONTRACTOR's health, safety, security, environment, quality assurance, and legal obligations.
- 2.10 CONTRACTOR shall ensure optimal utilization of equipment, in that, equipment shall be back loaded at the earliest opportunity if no longer required. CONTRACTOR shall render all assistance to COMPANY in this regard. Nevertheless, equipment and / or materials shall only be shipped and back loaded with the prior consent of COMPANY. The effectiveness and benefits of the actions taken may be measured as part of the Performance Management System.

3.0 PERSONNEL

Section 3 – Scope of Work

- 3.1 CONTRACTOR shall provide fully trained, competent personnel to perform the WORK in accordance with the applicable WORK ORDER. The number of personnel required will be determined by operational and engineering need as agreed by COMPANY and CONTRACTOR. To ensure continuity and operational learning(s), personnel assigned to a WORKSITE shall not be replaced without COMPANY's approval which shall not be unreasonably withheld.
- 3.2 CONTRACTOR may be required to provide co-located engineering or technical support in COMPANY's local offices. "Co-located" support is defined as those personnel working on COMPANY operations and located in one or more of COMPANY's various local offices. CONTRACTOR staff designated for such positions will be pre-qualified and approved by COMPANY. Such CONTRACTOR staff is expected to perform as members of multi-discipline COMPANY teams, with shared accountability for team performance.
- 3.3 CONTRACTOR will supply a nominated Account Manager who is accountable for the performance of all personnel provided by CONTRACTOR. The Account Manager is expected to provide a single point of contact for contractual issues, HSSE performance, and for issues relating to compliance with the Scope of Work contained herein.
- 3.4 CONTRACTOR, with approval from COMPANY, will develop and deploy a program to maximize savings at the WORKSITE by employing multi-skilled personnel and thereby reducing the number of personnel required to an absolute minimum. Such reductions shall not at any time compromise safety, efficiency, or quality.
- 3.5 Additional personnel may be provided as required by CONTRACTOR and or COMPANY for operational or other reasons. The requirement for such additional personnel must be agreed to in advance and shall be affected by a CHANGE ORDER at rates as specified in Section 4 – Remuneration.
- 3.6 A Personnel Plan may be requested from time to time for various activities (e.g., large development projects). These Personnel Plans may include – but not be limited to – number of personnel by category required to discharge all duties needed to complete the WORK; organization charts; manner in which any applicable local content requirements will be satisfied; and other items that may be specified.
- 3.7 Personnel shall be trained appropriately for the duties for which they will be responsible. Specifically, this requirement shall include, as applicable, all statutory and COMPANY requirements relating to WORKSITE safety, survival, and well control. In addition, supervisors shall be capable of performing Behavioral Safety Audits on CONTRACTOR tools, processes, and equipment. All applicable CONTRACTOR personnel shall participate in COMPANY sponsored initiatives and must comply with safety training requirements as defined or required by COMPANY.

4.0 EQUIPMENT

Section 3 – Scope of Work

- 4.1 CONTRACTOR shall provide all equipment necessary to perform the WORK. CONTRACTOR shall be fully responsible for implementation of the techniques and equipment used which must be entirely consistent with good oilfield practice and meet all COMPANY standards as stated herein.
- 4.2 CONTRACTOR shall be required to mobilize and demobilize its tools and equipment in accordance with the specific requirements of each operation. Unless agreed to in advance by COMPANY, CONTRACTOR shall provide adequate back up tools, equipment, spares and consumables to ensure that service disruption is minimized due to tool or equipment failures.
- 4.3 Upon receipt of a WORK ORDER, or CHANGE ORDER to a WORK ORDER from COMPANY, CONTRACTOR shall provide, or procure the requested tools, equipment, spares, or materials, to be available for transport by the specified time. Where CONTRACTOR cannot supply such tools or equipment from its own inventory, it shall notify COMPANY, and upon receipt of COMPANY's written approval, shall procure same through a Third Party and supply to COMPANY at the rates contained in this CONTRACT.
- 4.4 CONTRACTOR shall develop and maintain an up to date inventory and utilization report in Microsoft Excel or other acceptable format for:
 - 4.4.1 all CONTRACTOR owned tools and equipment used during all or a portion of the CONTRACT term.
 - 4.4.2 all COMPANY owned equipment used during all or a portion of the CONTRACT term, inclusive of those items being held on consignment for future use and their respective Purchase Order value.
 - 4.4.3 all materials consumed during the then current invoice period and collectively throughout the entire term of the CONTRACT.
 - 4.4.4 In addition, CONTRACTOR shall make the above referenced inventory and utilization reports available for inspection by COMPANY as and when requested.
 - 4.4.5 Further, this inventory and utilization report must be maintained on a well by well basis, and must be submitted to COMPANY when invoicing for services. Failure to provide the specifics of inventory and utilization shall be deemed to be a breach of Section 2 – General Conditions of Contract, Clause 14.6.
- 4.5 CONTRACTOR shall be responsible at its own cost for stock control, maintenance, and servicing of its equipment, and shall use best efforts to ensure that sufficient spares are available for maintenance requirements and to meet contingency requirements.
- 4.6 COMPANY shall have the right to inspect CONTRACTOR's equipment, materials, and supplies at any time to observe their condition and to ensure that no deficiencies exist. Such inspection by COMPANY shall not imply any acceptance of the condition of the said equipment, materials, and supplies by COMPANY and CONTRACTOR shall not be relieved of its obligations under this CONTRACT by any such inspection.
- 4.7 CONTRACTOR shall provide equipment that meets the requirements outlined in Section 6 – Quality Assurance and Quality Control (QA/QC) and Section 3, Appendix 7 – Technical Integrity herein.

Section 3 – Scope of Work

4.8 All tools, material, and equipment used for the execution of the WORK shall be fit for purpose and maintained in accordance with manufacturers' recommendations. In addition, a full history record and certification shall be maintained in accordance with CONTRACTOR's existing preventive maintenance and quality management systems.

4.9 CONTRACTOR shall create and implement a 'Total Quality Management' process or use an existing approach for the process of recording and reporting the history of tools and equipment from procurement to end use.

Features of the system shall include:

4.9.1 Capable of Audit.

4.9.2 Record full traceability from mill material test reports and test certificates, through manufacture, procurement, and subsequent service life.

4.9.3 Ability to manage and control stock levels.

4.9.4 Identifies items under repair as potential stock.

4.9.5 Ability to reserve or allocate items in stock for specific well service / completion requirements and subsequently complete transfer and amend stock level.

4.9.6 Record and display tools and equipment in specific generic groupings, i.e., packers, safety valves etc., for ease of reviewing availability.

4.9.7 Ability to record tool or equipment history by well.

4.9.8 Show the well file as the final reconciliation for well costs with a summary statement showing all items consumed and associated service costs. The final reconciliation shall be submitted with CONTRACTOR's invoice to COMPANY.

4.10 All work shall be conducted under agreed procedures and fully in accordance with COMPANY Technical Integrity requirements.

5.0 TRANSPORTATION OF EQUIPMENT AND MATERIALS

5.1 If the WORK includes marine transportation of equipment and materials, CONTRACTOR shall be required to give not less than the SPU-specific minimum notice time for offshore transportation requirements. COMPANY's decision as to the availability of vessel and / or helicopter transportation at any particular time shall be final.

5.2 In supplying equipment and materials to COMPANY's designated supply base, CONTRACTOR shall take due consideration of the magnitude and urgency of each consignment. CONTRACTOR shall liaise with COMPANY's nominated supply base sufficiently in advance of each consignment to agree timing of collection and delivery.

5.3 CONTRACTOR shall at all times comply with appropriate regulations and guidelines for the transportation of dangerous and hazardous goods. Copies of Material Safety Data Sheets (MSDS) for all products shall be made available to COMPANY upon demand by COMPANY

Section 3 – Scope of Work

or its delegate.

- 5.4 All packaging is to be of suitable quality to withstand operating area climatic conditions. All materials shall be palletized, strapped, and shrink-wrapped. COMPANY shall have the right to reject any materials deemed unsuitably packaged for the conditions or where the packaging is of poor quality. Materials received by COMPANY without the required packaging will not be accepted and will be returned to CONTRACTOR for CONTRACTOR's account.

All packaged equipment shall be externally marked using suitable means so as to allow ready identification of the enclosed items:

- 5.4.1 Parts and equipment shall have exposed metallic surfaces protected against corrosion.
 - 5.4.2 Exposed seals, seal surfaces, threads, and operating parts shall be protected from mechanical damage during shipping.
 - 5.4.3 Loose components shall be separately packed and identified.
 - 5.4.4 Exposed hydraulic end fittings shall be capped.
 - 5.4.5 Special provisions for shipment and storage of electronic items in accordance with manufacturer instructions shall be made.
 - 5.4.6 Units and assemblies shall be securely crated or mounted on skids to suit the proposed shipment method. These shall be designed to prevent damage and to facilitate handling.
 - 5.4.7 Special provisions for transportation vibration protection for both land and sea shall be made to ensure no damage to equipment.
 - 5.4.8 The packaging / shipment method shall take into account any limitations in maximum or minimum allowable temperature, UV, and humidity protection. This shall include storage for extended periods in the local climate.
- 5.5 CONTRACTOR will be responsible for loading equipment efficiently into its Cargo Carrying Units (CCU) at its local facility and will endeavor to minimize the number of CCUs used. Equipment transported within CCUs shall be adequately secured such that there is no risk of injury through either opening the CCU or equipment falling out or through accessing equipment within the CCU.

6.0 FACILITIES

- 6.1 CONTRACTOR shall support the WORK from local facilities that provide comprehensive warehousing, laboratory, workshop, and service support. The services to be provided by CONTRACTOR at the local facility will include but would not be limited to the storage, preservation, handling, preparation, inspection, testing, maintenance, and repair of CONTRACTOR's tools, equipment, and materials.
- 6.2 Where CONTRACTOR is unable to comply fully with the requirements of Clause 6.1 above, CONTRACTOR shall identify the exceptions and provide details of alternative support services to be offered to enable CONTRACTOR to perform the WORK in a manner

Section 3 – Scope of Work

satisfactory to COMPANY.

7.0 SPECIFICATIONS AND PROCEDURES

- 7.1 CONTRACTOR shall perform WORK as specified in Section 3, Appendix 6 – Functional and Technical Specifications (for those Sub-Sectors where Functional and Technical Specifications exist, including: Cementing Services; Stimulation Services; Coiled Tubing Services; Well Placement; Wireline Services; and Completions).
- 7.2 CONTRACTOR, during the performance of WORK, shall adhere to the methods and procedures as specified in Section 3, Appendix 7 – Technical Integrity and in Section 6 – Quality Assurance and Quality Control.

8.0 COMPANY'S GENERAL OBLIGATIONS

The following items shall be for COMPANY's account for all offshore WORK:

- 8.1 Accommodation and messing for CONTRACTOR's personnel while onboard any COMPANY offshore facility.
- 8.2 Installed services required to perform WORK, including diesel fuel, air, water, and electricity.
- 8.3 Marine and air transport of CONTRACTOR's materials, tools, equipment, and personnel between COMPANY's designated marine and air supply bases and the offshore location. COMPANY shall select type of transport.

Section 3 – Scope of Work
Appendix 6 – Functional and Technical Specifications

2.0 THE MINIMUM TESTING FOR CEMENTING OPERATIONS

2.1 All testing is required on rig samples and to be submitted to COMPANY Wells Team 24 hours prior to cementing operations commence, unless otherwise agreed with Wells Team.

2.2 General Requirements (all slurries all job types)

All slurries incorporating a Fluids Loss aid must have API fluid loss determined

Slurries placed for control of Shallow Flows (conductor or surface pipe) or where gas migration risk is high (predicted flow potential is high and/or static cement overbalance < 200psi against a permeable gas bearing formations) must have static gel strength transition time and zero gel time determined. In addition COMPANY settlement test must be run in these situations

2.3 Specific Requirements

Job Type	Slurry	Pump Time	Compressive Strength	Operating Free Water	API Fluid Loss	Rheology	COMPANY Settlement Test
Conductor	Neat	Note 1	No	No	No	No	No
	Extended	Yes	Yes	Yes	No	Yes	No
Surface	Lead	Yes	Note 2	Yes	No	No	No
	Tail	Yes	Yes	Yes	No	No	No
Intermediate	Lead	Yes	No	Yes	No	Yes	No
	Tail	Yes	Yes	Yes	No	Yes	No
Production Casing and Drilling liners	Lead and Tail	Yes	Yes	Yes	No	Yes	Note 3
Production Liner		Yes	Yes	Yes	Yes	Yes	Yes
Plugs		Yes	Yes	Yes	No	Yes	Note 3

Note 1: Extended testing regime applies if temperature > 40 degrees C or slurry not Class G/H + accelerator

Note 2: Where structural support or zonal isolation is required, and when a filler slurry is unnecessary, compressive strength must be determined.

Note 3: When the hole angle exceeds 70 degrees, a COMPANY settlement test is required.

2.4 Compatibility Testing

2.4.1 Water Based Mud and Oil Based Mud

For liner jobs and where cement is pumped directly in contact with the drilling fluid a contaminated thickening time test is required using a 95 / 5 cement to mud contaminant.

For every well API mud /spacer compatibility test should be performed on intervals isolating hydrocarbon bearing formations and permeable overpressured brine or

Section 3 – Scope of Work
Appendix 6 – Functional and Technical Specifications

water bearing formations for each section (mud spacer combinations only need to be tested once per well).

Where a cement evaluation log is to be run compressive strength should be determined for a 95/5 cement/spacer combination.

2.4.2 Oil Based Mud

Water wetting characteristics of the spacer to be confirmed on a metal coupon test with sample of field mud for once each well.