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|---|------------------------|---|---------------------------------|--------|-------------------------------|
|  | Division:<br>Corporate | Business<br>Unit/Area:<br>U.S. Drilling | Protocol No.:<br>DRIL-01EHS1-PR | Page 1 | Revision/Approval<br>8/1/2017 |
| <b>Rig Move Hazard Mitigation Procedure</b>                                       |                        |   |                                 |        |                               |

## Purpose

This U.S. Drilling Department procedure defines the requirements for rig move pre-planning, detailed route assessments that identify hazards and mitigation steps, and safe rig move execution.

## Scope


This procedure applies to all Devon U.S. rig moves and the employees, contractors and suppliers participating in the rig move. Deviation from this procedure requires a risk assessment with written consent from the responsible Devon Drilling Manager in charge and notification to the Vice President of Drilling and EHS Manager. (Email response to the risk assessment is adequate for the written consent and leadership notification.)

## 1.0 Responsibilities

In addition to any job specific responsibilities, it is the responsibility of the people with the following roles to ensure that this standard operating procedure is applied during rig mobilizations.

| Roles          | Responsibilities   |
|----------------|--|
| Superintendent | <ul style="list-style-type: none"> <li>• Ensures Rig Move Plan is followed and is working</li> </ul>   |
| PIC            | <p>The PIC is the Company Man/Well-site Supervisor unless otherwise stated. This individual will be on location and is accountable for execution of the Rig Move plan and will have control to determine which operation or phase of work has precedence at any given time. The PIC shall communicate daily with the Drilling Superintendent or Foreman with respect to rig move activity. The PIC or designee shall communicate with each contractor upon entry and departure from the well location</p> <ul style="list-style-type: none"> <li>• Accountable for execution of the Rig Move plan</li> <li>• Ensure all key stakeholders (rig, completion, facilities and production) are briefed and engaged, including contractors. Must have communications across the crews and shifts</li> <li>• Monitor daily Rig Move activity</li> <li>• Evaluate the risk of the various move and rig up operations and ensure necessary mitigation plans are in place</li> </ul> |

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|   |                        |   |                                 |        |                               |
|---|------------------------|---|---------------------------------|--------|-------------------------------|
|  | Division:<br>Corporate | Business<br>Unit/Area:<br>U.S. Drilling | Protocol No.:<br>DRIL-01EHS1-PR | Page 2 | Revision/Approval<br>8/1/2017 |
| <b>Rig Move Hazard Mitigation Procedure</b>                                       |                        |   |                                 |        |                               |

|                    |  |
|--------------------|--|
| CONTRACTOR         | <p>Individual on location who is accountable for executing specific activities under the direction of the PIC. The Contractor shall communicate with the PIC prior to entry, upon entry and upon departure from the particular well location. The Contractor shall also be accountable for monitoring the ongoing operation and identifying and reporting any activity that may impact their ability to perform the intended activity. Generally, the Contractor will:</p> <ul style="list-style-type: none"> <li>• Monitor daily Rig Move and Rig Up activities</li> <li>• Facilitate daily Pre-Task Tailgates (Pre-Job) and operations review(s)</li> <li>• Attend daily activity review(s)</li> <li>• Execute specific activity under the direction of the PIC</li> </ul> |
| EHS REPRESENTATIVE | <p>Individual assigned to provide functional EHS expertise. The Representative shall communicate with the PIC with respect to EHS aspects of the ongoing operation.</p> <ul style="list-style-type: none"> <li>• Monitor daily activity</li> <li>• Provide EHS support and oversight</li> </ul>  |

## 2.0 Terms and Definitions


**Oversized Load** - In the United States an oversize load is a vehicle and/or load that is wider than 8 ft. 6 in. (2.59 m). Each individual state has different requirements regarding height and length (most states are 13 ft. 6 in. or 4.11 m tall), and a driver must purchase a permit for each load and for each state he/she will be traveling through.

**Safe Clearance Electrical Power Lines** - vehicles, equipment and loads of material in transit must maintain a minimum clearance from overhead power lines based upon Table 1 listed below. (This clearance does not apply to communication lines.)

TABLE 1-Approach distance to energized overhead power lines.

| Voltage Range (phase to phase) | Minimum Clearance               |
|--------------------------------|---------------------------------|
| 0 – 300 V                      | 1 foot                          |
| 301– 750 V                     | 2 feet                          |
| 751 – 15,000 V                 | 3 feet                          |
| 15 - 50 kV                     | 4 feet                          |
| 50 kV and up                   | 4' plus 4" for every 10 KV over |

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|   |                        |   |                                 |        |                               |
|---|------------------------|---|---------------------------------|--------|-------------------------------|
|  | Division:<br>Corporate | Business<br>Unit/Area:<br>U.S. Drilling | Protocol No.:<br>DRIL-01EHS1-PR | Page 3 | Revision/Approval<br>8/1/2017 |
| <b>Rig Move Hazard Mitigation Procedure</b>                                       |                        |   |                                 |        |                               |

### 3.0 Procedures

*Your Safety & Your Co-Workers' Safety is YOUR Responsibility. You have the authority and obligation to STOP any unsafe task or operation.*

#### 3.1 Pre-Planning Rig Move

- 3.1.1 Verify the well pad at the new location is constructed to the appropriate dimensions for both the rig and equipment being moved prior to coordinating the rig move.
- 3.1.2 Complete a route survey and detailed route assessment on all non-DOT permitted sections of the route. Example: Survey from the old location to the DOT approved trucking route and from the end of the DOT approved route to the new location. Assessment should identify obstructions and hazards to normal and oversized loads, such as overhead power lines, bridges, overpasses and cattle guards for each route. Maintain a minimum clearance from overhead power lines as set forth in Table 1 in section 2.0.
- 3.1.3 A high pole truck designated by the trucking company truck pusher will run the entire DOT approved route to ensure all over height permitted loads will clear obstacles encountered prior to the rig move meeting. The high pole truck will be set at a maximum anticipated permit height plus 6 inches.

NOTE: The trucking company's designated high pole truck will run the entire DOT route daily to ensure no new obstacles are on the approved route.


- 3.1.4 Note: Route assessments can be documented on the included forms or similar documents and must also meet DOT and /or state requirements. (Documentation will be kept in the rig files or electronically in Well View.)
- 3.1.5 The trucking company will document any potential issues or concerns along the approved route such as construction zones, areas of high traffic, reduced speed limits, etc. This information will be reviewed in the pre-move meeting prior to mobilization of equipment.
- 3.1.6 Only a trained electrician may use hot sticks to measure, touch or raise overhead power lines. Non-electricians can only use electronic (non-contact) cable height meters to measure cable height.

Note: High-pole escort trucks can be used to validate line clearance on state and federal roads. Set high pole 6 inches higher than the tallest load.

- 3.1.7 Conduct a pre-rig move meeting with Devon PIC, drilling contractors rig manager and truck pusher at least 24 hours prior to the rig move. The meeting shall include a review of the proposed route(s) and the documented route assessment that identifies all known obstructions and hazards. Document the pre-rig move meeting on the included form or something equivalent. (Documentation will be kept in the rig files or electronically in Well View.)

Note: Include any additional personnel deemed necessary, including safety coaches if available.

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|   |                        |   |                                 |        |                               |
|---|------------------------|---|---------------------------------|--------|-------------------------------|
|  | Division:<br>Corporate | Business<br>Unit/Area:<br>U.S. Drilling | Protocol No.:<br>DRIL-01EHS1-PR | Page 4 | Revision/Approval<br>8/1/2017 |
| <b>Rig Move Hazard Mitigation Procedure</b>                                       |                        |   |                                 |        |                               |

- 3.1.8 The Trucking Company truck pusher and their designated high pole truck must drive and check the route for new hazards, 24 hours prior to the rig move. Check for new electric lines, ditches and other obstructions. Hazards shall be removed or mitigated and clearly marked prior to the rig move.
- 3.1.9 NO deviations from the approved route will be allowed without a new route assessment. Deviations = **Stop Work!**
- 3.1.10 Equipment should not be staged on any other location without a documented route assessment and approval from the Devon PIC.
- 3.1.11 There should be at least one Devon PIC or truck pusher on the “move from” location and at least one Devon PIC or truck pusher at the “move to” location. Both locations must have a sign-in point maintained by the Devon PIC or truck pusher.
- 3.1.12 Required signage shall be clearly positioned and visible by personnel on site, from the road as it enters the location and if necessary, along the transit route. Examples: “Warning Overhead Power line,” “Trucks Turning,” “Caution Heavy Truck Traffic,” “Residential Area,” “Slow Down,” etc. All speed limits are to be strictly enforced.
- 3.1.13 Identify or barricade off all overhead power lines on the well pad and within 100 feet of the outer edge of the well pad using one of the following:
  - A. Goal post warning system (see attachment) or similar shall be used to mark overhead power lines that vehicles and equipment must pass underneath.
  - OR
  - B. Physical barriers shall be used to keep vehicles and equipment at least 15 foot away from overhead power lines where there is no need to drive underneath.

Note: (These requirements apply to the new and old location.)


## 3.2 Rig Move Execution

- 3.2.1 Conduct daily pre-task tailgate meetings (safety meeting) with all contractors on site to include: rig crew, rig move trucking company, truck drivers and all other parties on location during the rig move. Nobody should begin work or join the rig move without participating in a pre-task tailgate or being updated by PIC, truck pusher, Safety Coach or designee.

Note: Clarify any special procedures for the rig move and discuss any specific safety hazard that might come up during the move. Everyone should know what loads they will pick up, where they are going and what tools/equipment they need for the job.

- 3.2.2 Verify crane and forklift operators have current certifications prior to beginning. Verify that contractor has inspected all applicable rig move equipment, cranes, trucks, forklifts and associated lifting & rigging equipment prior to beginning work. Equipment must either be in good condition or be replaced. (See Mechanical Lifting and Rigging Protocol)

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|   |                        |   |                                 |        |                               |
|---|------------------------|---|---------------------------------|--------|-------------------------------|
|  | Division:<br>Corporate | Business<br>Unit/Area:<br>U.S. Drilling | Protocol No.:<br>DRIL-01EHS1-PR | Page 5 | Revision/Approval<br>8/1/2017 |
| <h2>Rig Move Hazard Mitigation Procedure</h2>                                     |                        |   |                                 |        |                               |

- 3.2.3 Mobile mechanical equipment must be unloaded and rigged up/rigged down on location and shall not leave location in the rigged up configuration. Forklifts, man lifts and loaders shall only be operated on location.

Note: Gin pole trucks must have the poles racked prior to leaving location.

- 3.2.4 Use non-conductive taglines to guide and position suspended loads. Taglines should be of sufficient length to keep workers out of fall path.
- 3.2.5 “Homemade” lifting devices and tools are prohibited on Devon locations. Lifting devices must be certified by a registered engineer. Break-over or lever-style load tensioning devices (boomers) are not allowed on Devon locations.
- 3.2.6 All vehicles, equipment and loads of material in transit must maintain a minimum clearance from overhead power lines as set forth in Table 1 in section 2.0. Any exception requires a risk assessment with written (email) approval from the responsible Devon Drilling Manager and notification to the Drilling Vice President and EHS Manger.


If unable to maintain the proper clearance, the line must be de-energized and/or raised by a licensed electrician, or an alternate route must be identified and used. Route changes shall be approved by the Devon PIC and the Trucking Company truck pusher and documented on the approved route assessment.

- 3.2.7 The rig move trucking company is responsible to ensure all loads are prepared, loaded and secured in a manner that allows for adequate clearance from all obstructions.
- 3.2.8 Measure load height for all loads leaving location to ensure the load meets the clearance requirements listed in Table 1 for the lowest power line or hazard along the route. Loads **must be measured after they are on the trailer that will be used** and properly secured.

Note: Alternative method of measuring each load is to create a measuring station on the old location to ensure overhead hazard clearance. This involves setting a goal post system with a height indicator (flagging, cable/string, laser, etc) to create the “measuring station.” The height of the station would be set according to the minimum clearance from overhead power lines as set forth in Table 1 in section 2.0., or at the height of the lowest overhead hazard along the approved route (bridge, communications line, etc.), whichever is lower. Each load leaving location would then drive under the height indicator to verify proper clearance prior to leaving location.

- 3.2.9 Ensure pit roofs, lights, handrails and finger/racking boards are lowered and removed as appropriate.
- 3.2.10 Check and document the dimensions of all permitted loads prior to leaving location.
- 3.2.11 All on-site vehicles and mechanical equipment (rigs, cranes, forklifts, loaders and gin pole trucks) that have the capability to be elevated must maintain a 10-foot clearance from any overhead power line. If unable to maintain 10-foot clearance, the power line must be de-energized.

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|   |                        |   |                                 |        |                               |
|---|------------------------|---|---------------------------------|--------|-------------------------------|
|  | Division:<br>Corporate | Business<br>Unit/Area:<br>U.S. Drilling | Protocol No.:<br>DRIL-01EHS1-PR | Page 6 | Revision/Approval<br>8/1/2017 |
| <b>Rig Move Hazard Mitigation Procedure</b>                                       |                        |   |                                 |        |                               |

- 3.2.12 All vehicles that enter a Devon location or site must comply with first-move-forward policy to minimize backing risks. Vehicles larger than a pickup should have a spotter while backing. Set parking brake or chock wheels if the vehicle is left unattended while running.

You have the authority and obligation to STOP any unsafe task or operation during the rig move.

**References:**

- 1) Mechanical Lifting and Rigging protocol**
- 2) Electrical Safety protocol**
- 3) Job Hazard Analysis/Pre-Task Tailgate**

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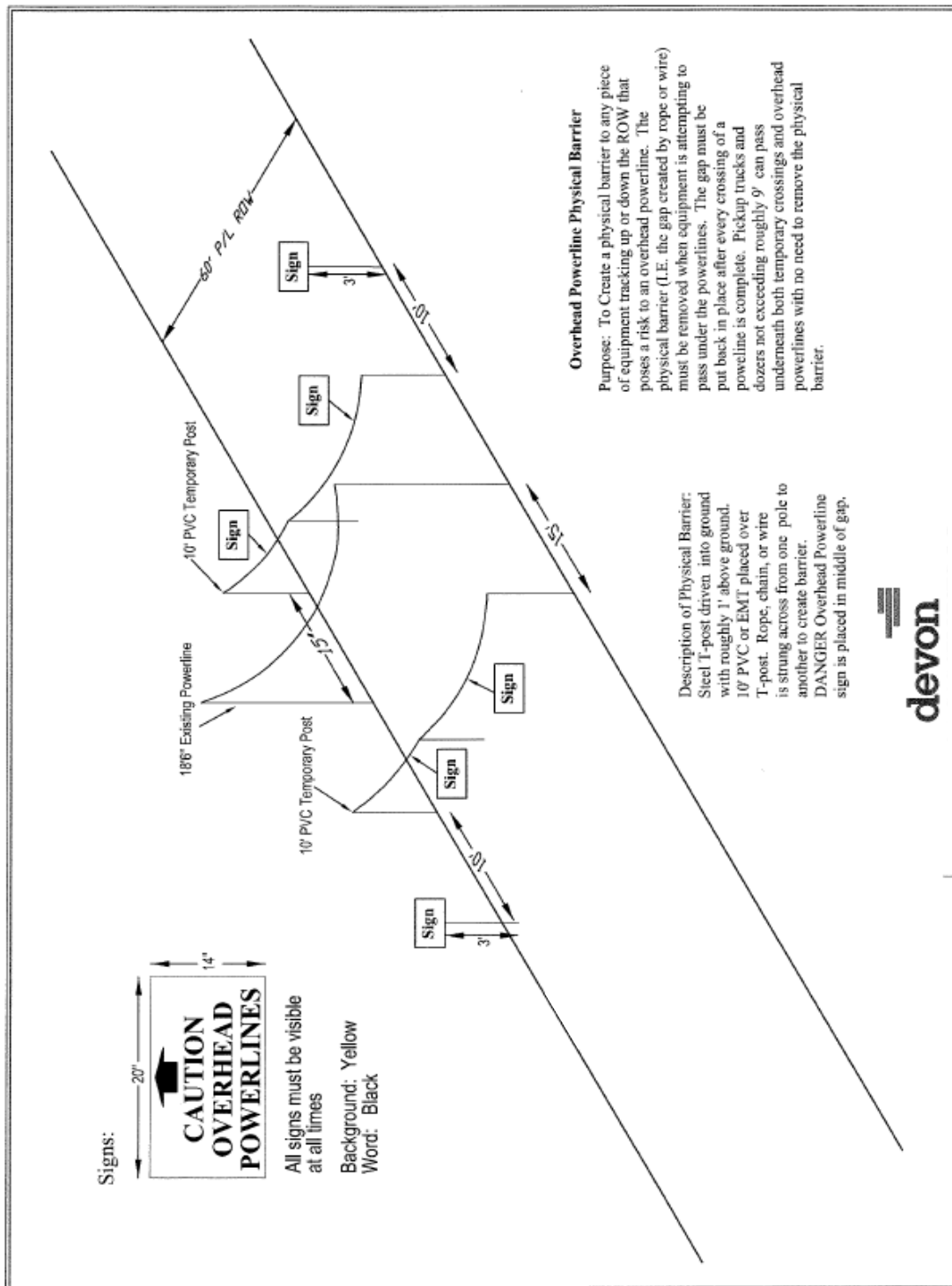
**Attachment A - Approval, Review and Modification History**

| Revision Number | Approved/Revised/Reviewed By | Approval/Revision/Review Date | Description (Initial Approval, Revision or Review along with further details of revision if needed)   |
|-----------------|------------------------------|-------------------------------|---|
| 00              | Garrett Jackson              | 9/29/2014                     | Initial Approval  |
| 01              | Garrett Jackson              | 8/1/2017                      | Replaced 4 foot clearance requirement with clearances outlined in Table 1; Step 3.1.2 route assessment requirement for “non-DOT” permitted sections of route; addition of step 3.1.3 and 3.1.5; 3.1.6 high pole set at 6 inches higher than tallest load; 3.1.11 requirement to maintain a sign-in location on both ends of rig move added. |
|                 |                              |                               |   |
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Rig Move Hazard Mitigation Procedure

Attachment B



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|   |                        |                                      |                                 |        |                               |
|---|------------------------|--------------------------------------|---------------------------------|--------|-------------------------------|
|  | Division:<br>Corporate | Business Unit/Area:<br>U.S. Drilling | Protocol No.:<br>DRIL-01EHS1-PR | Page 9 | Revision/Approval<br>8/1/2017 |
| <b>Rig Move Hazard Mitigation Procedure</b>                                       |                        |                                      |                                 |        |                               |

**Rig Move Forms**

**Pre- Rig Move Meeting**

Date of Meeting: \_\_\_\_\_

Drilling company and rig number: \_\_\_\_\_

Old Location: \_\_\_\_\_

New Location: \_\_\_\_\_

Weather Forecast: \_\_\_\_\_

**Meeting Attendees:**


| NAME | TITLE                     | COMPANY |
|------|---------------------------|---------|
|      | Field Supt.               | Devon   |
|      | Truck Pusher              |         |
|      | Rig Manager (Tool Pusher) |         |
|      | Drilling Consultant       | Devon   |
|      | Safety Rep                | Devon   |
|      | Consultant                |         |
|      |                           |         |
|      |                           |         |
|      |                           |         |
|      |                           |         |
|      |                           |         |
|      |                           |         |

Trucking Company: \_\_\_\_\_

**Trucking Personnel:**

- Truck Pushers \_\_\_\_\_
- Safety \_\_\_\_\_
- Escort \_\_\_\_\_
- Truck Driver's \_\_\_\_\_
- Equipment \_\_\_\_\_
- Rig up / Pole Trucks \_\_\_\_\_
- Forklifts \_\_\_\_\_

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|   |                        |   |                                 |         |                               |
|---|------------------------|---|---------------------------------|---------|-------------------------------|
|  | Division:<br>Corporate | Business<br>Unit/Area:<br>U.S. Drilling | Protocol No.:<br>DRIL-01EHS1-PR | Page 10 | Revision/Approval<br>8/1/2017 |
| <b>Rig Move Hazard Mitigation Procedure</b>                                       |                        |   |                                 |         |                               |

Cranes \_\_\_\_\_  
 Tandems \_\_\_\_\_  
 Haul Trucks \_\_\_\_\_  
 Slick Backs \_\_\_\_\_

Third Party Route Assessment: \_\_\_\_\_

**Load height must be measured and clearance validated before loads leave location.**

New Location / Any Problems? \_\_\_\_\_

Are we moving down high traffic roads? \_\_\_\_\_

Are we moving in a populated area? \_\_\_\_\_

Should the road & location be watered to hold down dust? \_\_\_\_\_

What is the height of the lowest overhead line? \_\_\_\_\_

Total # of Power Lines \_\_\_\_\_

Will gates or cattle guards be an issue? \_\_\_\_\_

Will a staging area be used? \_\_\_\_\_

Hazards? (Power Lines/flow lines/etc.) \_\_\_\_\_

Rail Road Crossing: \_\_\_\_\_

Any land owners that we might have issues with? \_\_\_\_\_


Split Derrick or Sub: \_\_\_\_\_

Hazards checked by Truck Pusher? \_\_\_\_\_

Devon PIC or Truck Pusher to drive/check route for new hazards 24 hours prior to rig move.

**\*\*Check for new electric lines/ditches/obstructions, etc. since Pre-Rig Move Meeting\*\***

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|   |                        |   |                                 |         |                               |
|---|------------------------|---|---------------------------------|---------|-------------------------------|
|  | Division:<br>Corporate | Business<br>Unit/Area:<br>U.S. Drilling | Protocol No.:<br>DRIL-01EHS1-PR | Page 11 | Revision/Approval<br>8/1/2017 |
| <b>Rig Move Hazard Mitigation Procedure</b>                                       |                        |   |                                 |         |                               |

### Pre Risk Assessment Form

Date: \_\_\_\_\_ Rig Number: \_\_\_\_\_

Old Location: \_\_\_\_\_

New Location: \_\_\_\_\_

Route Directions:

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Road Conditions: Steep Banks \_\_\_\_\_ Hairpin Curves \_\_\_\_\_ Hills \_\_\_\_\_ Trees \_\_\_\_\_

Weather/Road Conditions: Wet \_\_\_\_\_ Dry \_\_\_\_\_ Dusty \_\_\_\_\_ Turn Arounds on Locations \_\_\_\_\_

Snow packed \_\_\_\_\_ Icy \_\_\_\_\_ Snowing \_\_\_\_\_ Raining \_\_\_\_\_ High Winds 20-30 MPH \_\_\_\_\_

Other \_\_\_\_\_

Overhead Hazards: Lines/Poles Number: \_\_\_\_\_ Height: \_\_\_\_\_ Width: \_\_\_\_\_

Bridges or other Structures \_\_\_\_\_ Hazards on Location \_\_\_\_\_

Maximum height of loads to be transported \_\_\_\_\_

Animals: Livestock \_\_\_\_\_ Wild Animals \_\_\_\_\_

Cattle Guards: How Many: \_\_\_\_\_ Width \_\_\_\_\_ Wings: \_\_\_ No \_\_\_

Miles: Dirt/Gravel Miles \_\_\_\_\_ Highway Miles: \_\_\_\_\_ Crossing Other Location \_\_\_\_\_

Heavy Traveled Road: Yes \_\_\_ No \_\_\_ State \_\_\_ County \_\_\_ Private \_\_\_ Lease \_\_\_ Other \_\_\_

Obstructions On Either Side Of Road:

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Pilot Cars Needed for Traffic Control: Yes \_\_\_\_\_ No \_\_\_\_\_ (If Yes, How Many?) \_\_\_\_\_

Railroad Crossings: Yes \_\_\_\_\_ No \_\_\_\_\_ (If Yes, How Many?) \_\_\_\_\_ Number of Tracks \_\_\_\_\_


Blind Corners: \_\_\_\_\_ Uncontrolled Intersections \_\_\_\_\_

Tight corners or obstructions on corners: \_\_\_\_\_

Traffic Hazards: Culverts \_\_\_\_\_ Delineator Post \_\_\_\_\_ Signs \_\_\_\_\_ Tanks \_\_\_\_\_ Pipes \_\_\_\_\_

Other/Comments/Concerns:

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|---|------------------------|---|---------------------------------|---------|-------------------------------|
|  | Division:<br>Corporate | Business<br>Unit/Area:<br>U.S. Drilling | Protocol No.:<br>DRIL-01EHS1-PR | Page 12 | Revision/Approval<br>8/1/2017 |
| <b>Rig Move Hazard Mitigation Procedure</b>                                       |                        |   |                                 |         |                               |

## Route Assessment Form

Date of Assessment:

Directions Summary:

Total miles:

Total Cattle Guards and Gates

1<sup>st</sup> (Cattle Guard):

2<sup>nd</sup> (Cattle Guard):

3<sup>rd</sup> (Cattle Guard):

4<sup>th</sup> (Cattle Guard):

5<sup>th</sup> (Cattle Guard):

Total Lines:

Total Bridges:

**Lowest line:**

Detailed Route (Bridges, Power Lines, overpasses, etc)

***Lease Road:***

Miles – x' x"

***Dirt Road:***

Miles – x' x"

***Highway XX:***

Miles – x' x"

***Highway XXX:***


Miles – x' x"

Miles – x' x"

***Lease Road:***

Miles – x' x"

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|   |                        |   |                                 |         |                               |
|---|------------------------|---|---------------------------------|---------|-------------------------------|
|  | Division:<br>Corporate | Business<br>Unit/Area:<br>U.S. Drilling | Protocol No.:<br>DRIL-01EHS1-PR | Page 13 | Revision/Approval<br>8/1/2017 |
| <b>Rig Move Hazard Mitigation Procedure</b>                                       |                        |   |                                 |         |                               |

### Release from Location Form

Date: \_\_\_\_\_

Lowest Power Line On Approved Routes Height \_\_\_\_\_ FT \_\_\_\_\_ INCHES

Trucking Company Name \_\_\_\_\_

Truck Number \_\_\_\_\_

Driver's Name \_\_\_\_\_

Maximum Load Height \_\_\_\_\_

| Load | Description | Height |
|------|-------------|--------|
| 1    | _____       | _____  |
| 2    | _____       | _____  |
| 3    | _____       | _____  |
| 4    | _____       | _____  |
| 5    | _____       | _____  |
| 6    | _____       | _____  |
| 7    | _____       | _____  |
| 8    | _____       | _____  |
| 9    | _____       | _____  |
| 10   | _____       | _____  |
| 11   | _____       | _____  |
| 12   | _____       | _____  |
| 13   | _____       | _____  |

Signature \_\_\_\_\_

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