



Anadarko Petroleum Corporation  
1099 18<sup>th</sup> Street  
Denver, CO 80202

April 15, 2010

US Department of Transportation  
Pipeline and Hazardous Materials Safety Admin  
12300 W. Dakota Ave.; Suite 110  
Lakewood, CO 80228

RE: CPF 5-2009-5007

Dear Mr. Hoidal:

Thank you for sending the closure of the Final Order CPF 5-2009-5007. After reviewing the Final Order, Anadarko Petroleum Corporation (APC) noticed a discrepancy between your records and ours.

On page 1 of the Final Order, it states '*Anadarko failed to respond within 30 days of receipt of service of the Notice....*' and, footnote 2, page 1, states that '*...Respondent submitted an untimely response to the Notice by letter dated May 21, 2009...*'.

A letter dated March 16<sup>th</sup> was submitted to your office by APC in response to the Notice of Probable Violation and Proposed Compliance Order. This response letter indicated that APC would comply and gather the requested information on the mileage that could affect an HCA. The letter dated May 21<sup>st</sup> was the second correspondence and included the technical data requested. Copies of those 2 correspondences are included with this letter.

APC requests that the statements '*failed to respond within 30 days of receipt*' and '*untimely response*' be reconsidered because a response was delivered to your office within 30 days of the Notice of Probable Violation and Proposed Compliance Order 5-2009-5007.

Thank you in advance for your consideration in this matter. If you have questions, please contact me at 720-929-6317 or [lynna.scranton@anadarko.com](mailto:lynna.scranton@anadarko.com).

Regards,

A handwritten signature in black ink, appearing to read "Lynna Scranton".

Lynna Scranton  
Anadarko Petroleum Corporation  
Pipeline Compliance Coordinator

Enclosure

Cc: Jeffery Wiese, Associate Administrator for Pipeline Safety



Anadarko Petroleum Corporation  
1201 Lake Robbins Drive  
The Woodlands, TX 77380

March 16, 2009

US Department of Transportation  
Pipeline and Hazardous Materials Safety Admin  
12300 W. Dakota Ave.; Suite 110  
Lakewood, CO 80228

RE: Proposed Compliance Order CPF 5-2009-5007

Dear Mr. Hoidal:

As a result of the Wamsutter Pipeline inspection conducted on September 24, 2008, a Proposed Compliance Order was issued in reference to CFR 195.452 (f) (1). In your letter, you wrote:

“The 2005, 2006, 2007 annual reports show that pipeline mileage designated as “could affect an HCA segment” had been reduced from 30 miles to one (1) mile without any technical justification. Based on the National Pipeline Mapping System (NPMS), it appears that the pipeline mileage that could affect an HCA segment is greater than one (1) mile on their Crude Oil Pipeline. Therefore, the HCAs were not adequately identified and located, the City of Table Rock.”

The above paragraph addresses two (2) issues regarding the mileage affecting a HCA on the Wamsutter Pipeline; 1) determine and document pipeline mileage that could affect a HCA, and 2) the inclusion/exclusion of the City of Table Rock as a HCA.

1) In regards to the reduction of mileage reported from 30 miles to one (1) mile that could impact an HCA, Anadarko Petroleum Corporation will contract with modeling specialists to conduct a Spill Impact Analysis on the Wamsutter Pipeline. This model will enable Anadarko Petroleum Corporation to:

- a) Identify which pipeline segments could affect a high consequence area (HCA)
- b) Analyze release locations and spill volumes
- c) Determine the overland spread possibilities
- d) Determine water transport of the spill

- e) Determine which pipeline segments could indirectly affect an HCA
- f) And ultimately determine total mileage of the Wamsutter Pipeline that could affect the HCAs for the annual report.

2) In regards to the City of Table Rock HCA issue, the abandoned subdivision of Table Rock was reported as an 'Other Populated Area' (OPA) to the NPMS. This subdivision has been abandoned for at least 15 years and is presently owned by Anadarko Petroleum Corporation. Since it is owned by Anadarko Petroleum Corporation, there are no allowances for population to be present related to this property. Photos of the abandoned subdivision have been provided to your office.

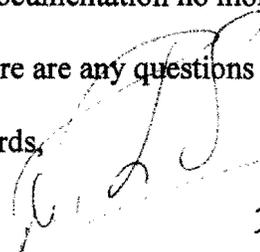
Anadarko Petroleum Corporation submits that this subdivision should not be considered an OPA. It is owned by Anadarko Petroleum Corporation, it is abandoned and the houses are being removed. Several houses have already been removed and the rest are scheduled to be removed by the end of 2009. Anadarko Petroleum Corporation would like to have the OPA distinction for the subdivision of Table Rock removed from the National Pipeline Mapping System (NPMS).

Please advise on whether or not it is necessary to include the OPA area on the Wamsutter pipeline for determining the total mileage of the Wamsutter Pipeline that could affect a HCA. Thank you for your time and consideration for the removal of the OPA distinction of the Table Rock subdivision.

Anadarko Petroleum Corporation will complete the compliance order items and submit the documentation no more than 60 days after the final order has been issued.

If there are any questions or need for further clarification, please do not hesitate to call.

Regards,

  
3/23/09  
Rex Specht  
Operations Manager Rockies Midstream  
Anadarko Petroleum Corporation



Anadarko Petroleum Corporation  
1201 Lake Robbins Drive  
The Woodlands, TX 77380

May 21, 2009

US Department of Transportation  
Pipeline and Hazardous Materials Safety Admin  
12300 W. Dakota Ave.; Suite 110  
Lakewood, CO 80228

RE: Proposed Compliance Order CPF 5-2009-5007

Dear Mr. Hoidal:

As a result of the Wamsutter Pipeline inspection conducted on September 24, 2008, a Proposed Compliance Order was issued in reference to CFR 195.452 (f). The proposed compliance order required Anadarko Petroleum Corporation (APC) to complete the following:

- (a) Identify which pipeline segments could affect a high consequence area (HCA)
- (b) Perform a comprehensive analysis of the release locations and spill volumes
- (c) Perform a comprehensive overland spread analysis
- (d) Perform a comprehensive water transport analysis
- (e) Identify any pipeline segments that could indirectly affect an HCA
- (f) Justify any deviations of could affect segments located within an HCA listed in the NPMS

To accomplish this, APC contracted modeling specialists to conduct a Spill Impact Analysis on the Wamsutter Pipeline. A simulation of a release was performed at intervals of 400 feet along the line. The spill volumes, overland spread and water transport of each spill was recorded. Overlaying the NPMS HCA's allowed for an accurate accounting of which sections of pipeline could directly or indirectly affect an HCA if a release occurred. Line specific details were loaded into the model, such as response time, depth of cover, soil type and flow rates, to ensure the most accurate simulation results.

Details on the model can be found in Appendix B.

### **Model**

The line specific parameters of the simulation were as follows:

- A release point interval of 400 feet was selected with additional release points at any intersection of the pipeline centerlines with NHD flow lines (stream or river). The 400 foot interval was determined by using doing a series of test SIA simulations in order to determine at which interval the spill plumes would come closest to touching each other while still minimizing the total number of release points to be analyzed.
- Media - Sweet Crude Oil (The default values in Spill Impact Analyst for specific gravity and viscosity were used for the specified media.)
- Release Temperature. – 60°F
- Water transport allowed to travel a fixed distance of 35 miles
- Depth of Cover of pipeline – 4.75 ft
- 100% flow at the start of drain down
- 100%<sup>1</sup> drain down released (100% means that all product that can drain out will)
- Simulation Time (equivalent to the expected time to respond on-site) – 12 hours
- Flow Rate- 187 bpd for the entire line

### **Results**

- (a) Identify which pipeline segments could affect a high consequence area (HCA)
- (e) Identify which pipeline segments could indirectly affect an HCA

A 'Could Affect' segment was defined as a segment where a release would potentially impact an HCA layer within the transport parameters either via overland flow as a spill plume or via water transport in streams or rivers.

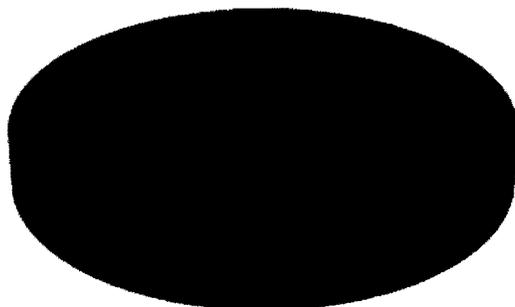
#### **Could Affect Segment summary**

	<b>Wamsutter Mileage</b>	<b>Percent of Total</b>
<b>Could Affect</b>	11.9	25.7%
<b>Does Not Affect</b>	34.5	74.3%
<b>Direct Affect</b>	5.6	12%
<b>Indirect Affect</b>	6.3	13.7%

# Wamsutter Line

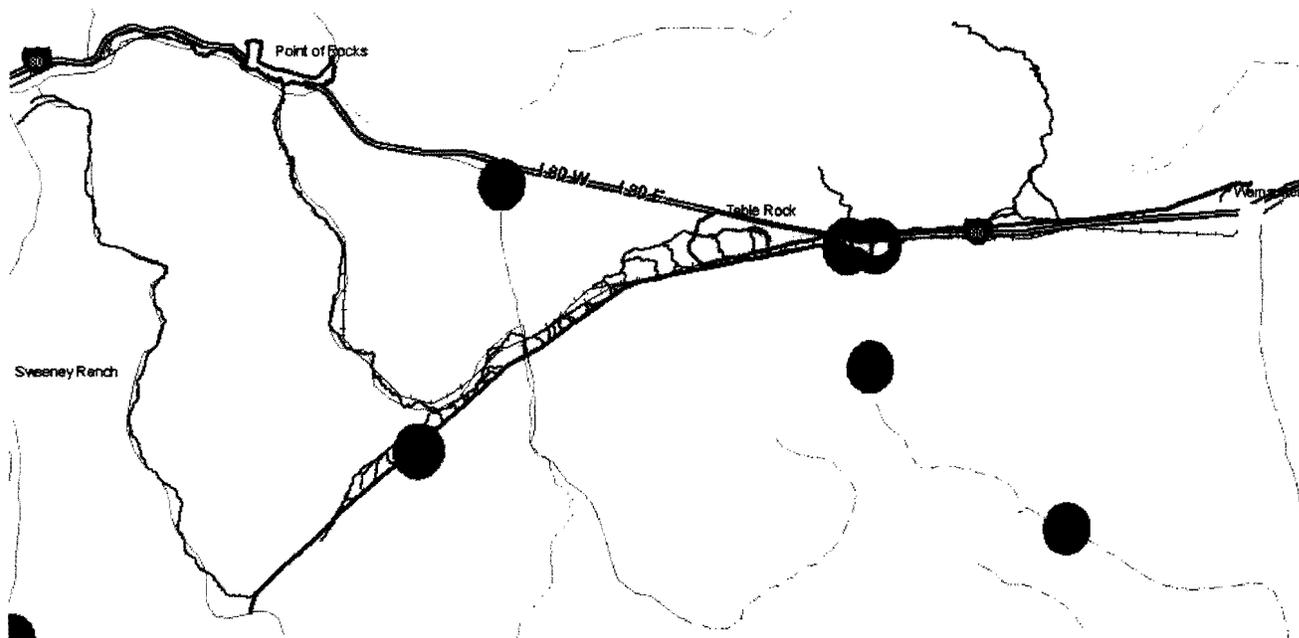
## HCA Mileage

■ Could Affect      ■ Does Not Affect



Wamsutter Could Affect mileage

The HCA's affected all belong to two types – Environmentally Sensitive Areas (ESA) and Other Populated Areas (OPA). It was determined that 3 unique ESA features and 2 unique OPA features could potentially be impacted. The flow of the Wamsutter Line if released would flow into many drainages, however only two creeks, Black Butte Creek and Bitter Creek, would reach the extent of the 35 mile fixed distance parameter. Below shows the 5 potentially impacted ESA and OPA features.



- (b) Comprehensive analysis of release locations and spill volumes
- (c) Comprehensive analysis of overland spread

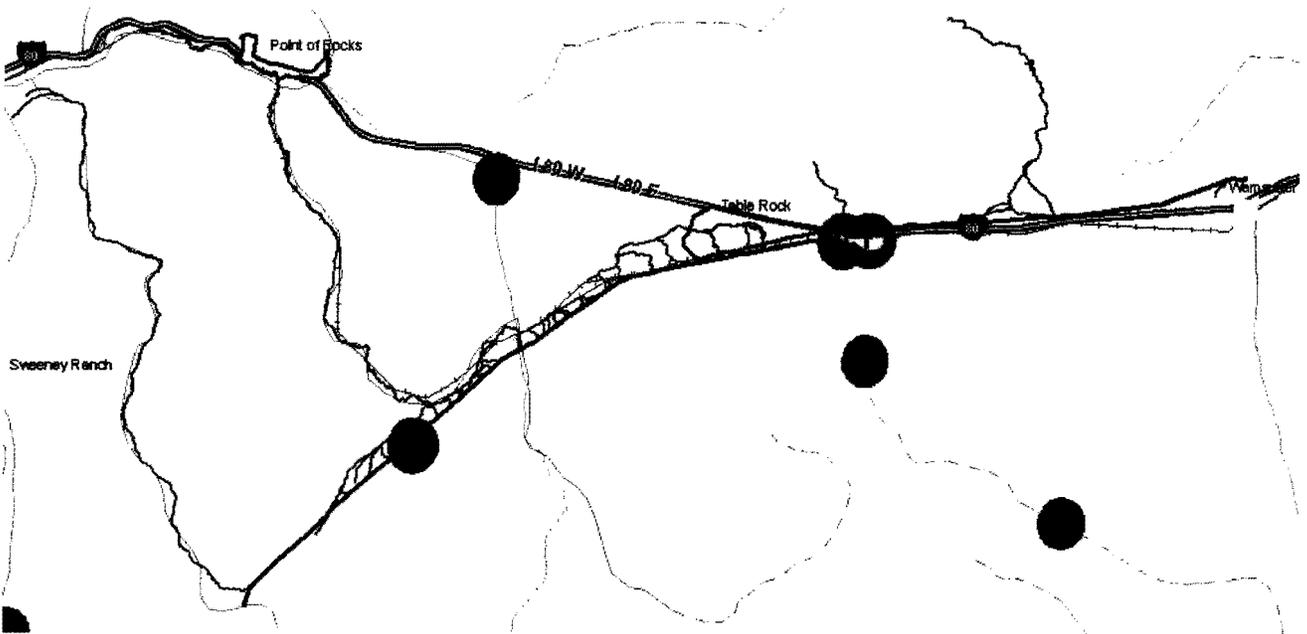
Spill volumes and overland spread illustrations are included in appendix A for the entire line.

Note that the results of this flow model are paths that realistically widen and narrow as surface topography changes, rather than simply identifying the steepest downhill path. Overland flow processing continued until the simulation time expired.

- (d) Comprehensive analysis of water transport

If the plume contacted an NHD flowline, the spill quantity and timing for the entry point were automatically transferred to the Channel Flow module and flow continued along the stream until the simulation time expired or the transferred product was exhausted through losses due to bank retention and evaporation. A default rate of 0.03 ft<sup>3</sup>/s was used for the attenuation rate for these simulations. A fixed distance of 35 miles was used for this simulation.

In the figure below, the pink depicts the water transport of releases.



- (f) Justify any deviations of could affect segments located in an HCA

#### Table Rock HCA/OPA

Included in the 11.9 miles of Wamsutter Pipeline that could affect an HCA is the abandoned, unpopulated subdivision of Table Rock, which is considered by NPMS as an 'Other Populated Area' (OPA). This subdivision is owned by APC and has been abandoned for at least 15 years

and is presently not populated. Photos of the abandoned subdivision have been provided to your office.

APC does not agree that this subdivision should be considered an OPA. Several houses have already been removed and the rest are scheduled to be removed by the end of 2009. APC would like to have the OPA distinction removed from the National Pipeline Mapping System (NPMS) for this subdivision. Please advise what information PHMSA requires to remove the OPA distinction from this area.

If OPA distinction is removed, the Wamsutter Pipeline mileage that could affect an HCA would be reduced.

Included in Appendix C are the costs associated with this compliance order.

Please contact me if you have any questions or concerns regarding this compliance order response.

Regards,

Lynna Scranton  
DOT Compliance Coordinator  
Anadarko Petroleum Corporation  
[Lynna.scranton@Anadarko.com](mailto:Lynna.scranton@Anadarko.com)  
720-929-6317