

TABLES

Table 1
Potential Sources of Contaminants to Aquifers from Oil and Gas Activities

General Ground Water Contamination Source Categories	Specific activity	Necessary Investigation	Data Available Now to Confirm Compliance/Effectiveness?
Water Supply Well Construction	Unintentional use of contaminated water	Procedure Review	Could Ask Operators for additional data now
	Fresh water aquifers drilled with water of lower quality	Procedure Review	Could Ask Operators for additional data now
	Hydrocarbon based Pipe Dope	Procedure Review	Could Ask Operators for additional data now
	Dirty pipe	Procedure Review	Could Ask Operators for additional data now
	Dirty drill stem	Procedure Review	Could Ask Operators for additional data now
	Material falling into well from rig during drilling	March 2009 Deadline	
	Inadequate securing of well surface features (The caps on the wells do not prevent access to the well by spray, dust, animals, surface runoff etc.)	March 2009 Deadline	
	Use appropriate quality water for purpose*	Answered by Characterization Study	Could Ask Operators for additional data now
Water Supply Well Use and operation	Illegal disposal	March 2009 Deadline	Compliance Inspections
	Unauthorized use of wells by people/companies that have not been approved or received proper training	March 2009 Deadline	Compliance Inspections
	Backflow from water transfer system	Further Discussion	
Oil and Gas well construction, completion and abandonment	Inadequate cement jobs of the gas well bore	Further Discussion	
	Inadequate surface casing depths and cement	Answered by Characterization Study	
	Oil based drilling fluids	Answered by Characterization Study	Could Ask Operators for additional data now
	Blow outs or uncontrolled discharges of drilling fluids or gas	Procedure Review	Could Ask Operators for additional data now
	Frac Fluids	Procedure Review?	Could Ask Operators for additional data now
	Fresh water aquifers drilled with water of lower quality	SOP--Procedure Review	Could Ask Operators for additional data now
	Unsanitary drilling practices in freshwater zones	SOP--Procedure Review	Could Ask Operators for additional data now
	Using DW quality water to drill etc*	Characterization/Monitoring Program	Could Ask Operators for additional data now
Production well abandonment procedures	Procedure Review	Could Ask Operators for additional data now	

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General Ground Water Contamination Source Categories	Specific activity	Necessary Investigation	Data Available Now to Confirm Compliance/Effectiveness?
Reserve Pits	Leakage of fluids prior to closure	Reserve Pits are being closed, converting to closed system. Procedure Review	Could Ask Operators for additional data now
	Leakage of fluids post closure	Tested and Solidified. Procedure Review	Could Ask Operators for additional data now
	Long term soil impacts	Tested and Solidified. Procedure Review	Could Ask Operators for additional data now
Pipelines	Breaks - leaks	Procedure Review	Could Ask Operators for additional data now
	Pig receiving pits	Don't have any. Secondary Metal Containment	Could Ask Operators for additional data now
Spills on well pad	Spills migrating from well pad	SPCPP NTL 3A--Procedure Review	Could Ask Operators for additional data now
	Accidental spill of sewage or other hazardous material on well pad	SPCPP NTL 3A--Procedure Review	Could Ask Operators for additional data now
Spills off well pad	Truck spills	SPCPP NTL 3A--Procedure Review	Could Ask Operators for additional data now
	Contamination by portable sewage treatment facilities	Permits just re-written. Compliance Review.	Could Ask Operators for additional data now

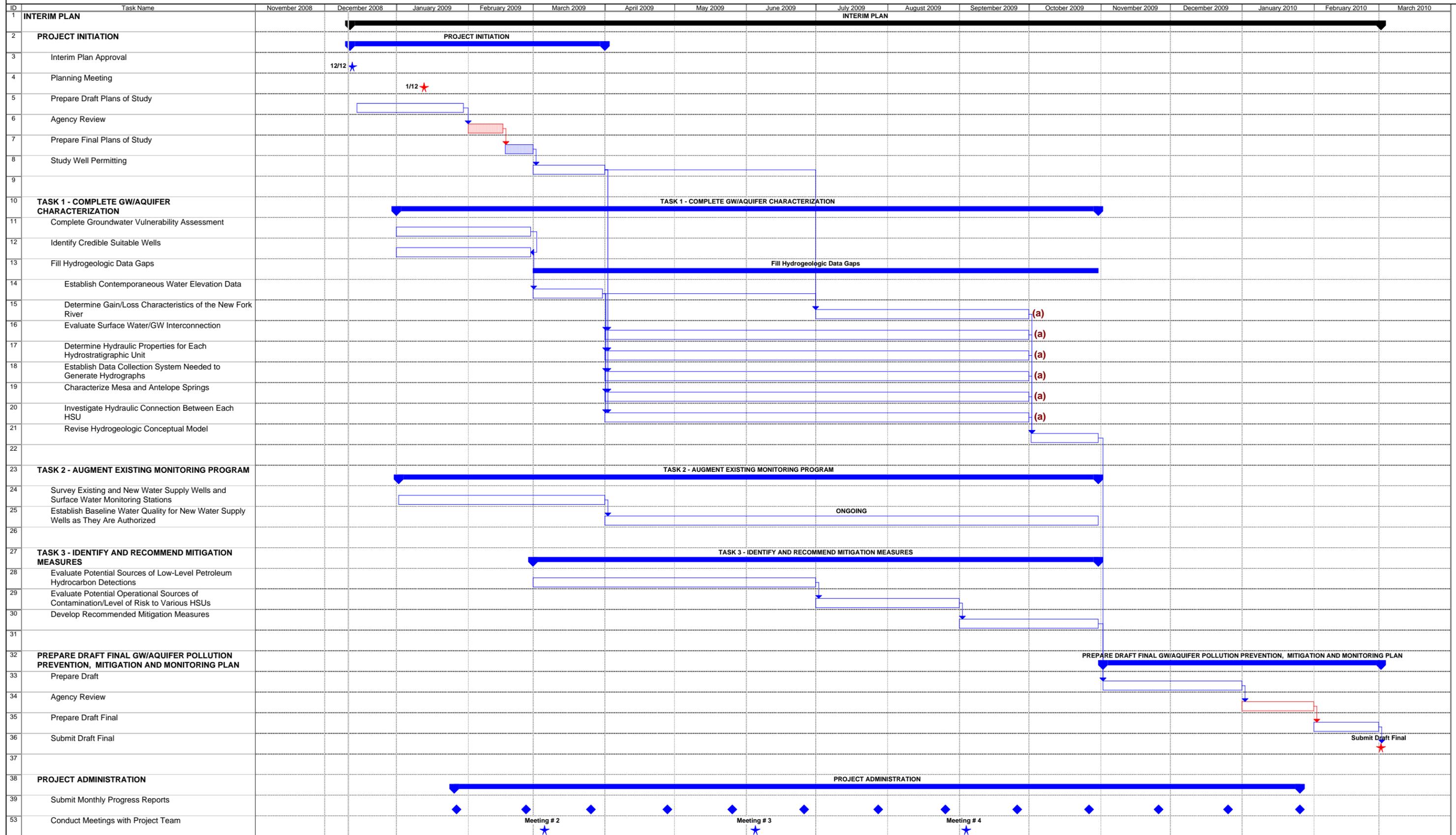
Source: BLM, DEQ and EPA (BDE), November 18, 2008, also known as the "Rainbow Matrix"

Notes:

If the activity itself brings fluids or materials that have med to high toxicity into contact with the aquifer (circulating fluid such as drilling mud) then lower mobility should not considered a limiting factor for ranking.

Other activities may require less mitigation if they are located outside medium or highly sensitive aquifer areas. But again activities that penetrate the aquifer negate needing to consider aquifer sensitivity due to the fact that the activity brings material in contact with the aquifer.

**TABLE 2
ESTIMATED PROJECT SCHEDULE
Interim Groundwater/Aquifer Pollution Prevention, Mitigation and Monitoring Plan**



(a) Detailed schedules for each Activity will be provided in Plans of Study (see Project Initiation above).

Task begin/end dates and durations are subject to change.