



Water Management Plan Update: Oil and Gas Workshop, 05/15/2014



Presented by:
Jason Harmon



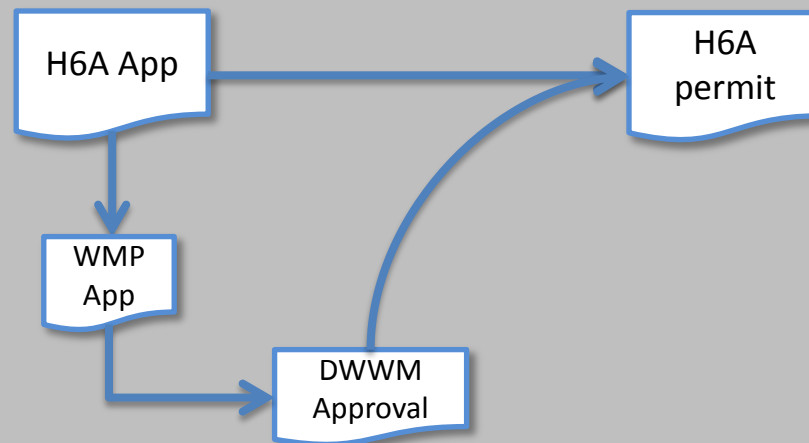
west virginia department of environmental protection

Agenda items

- WMP Pad Plans
 - Overview
 - Logistics
- Questions

Overview

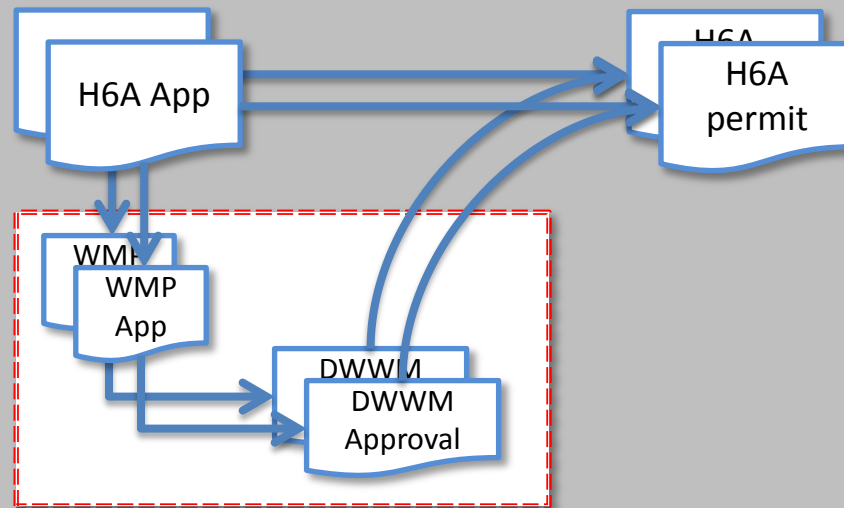
WMP approval per well



First well on a pad

Overview

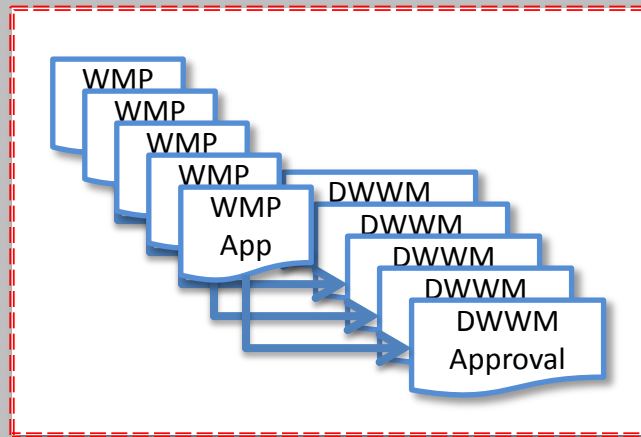
With subsequent wells, information is often redundant



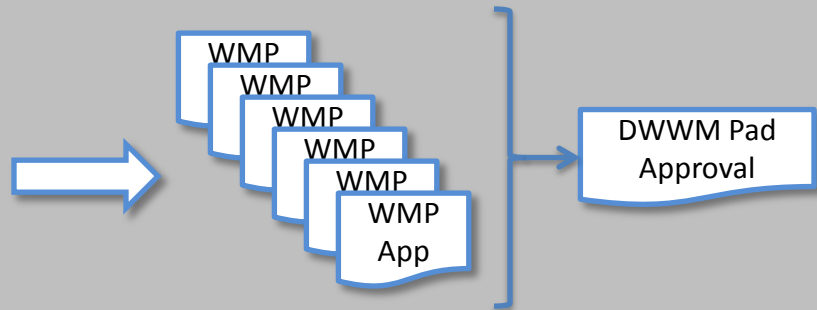
duplicated effort

Overview

There should be a way to condense all this identical information into a single, comprehensive plan...



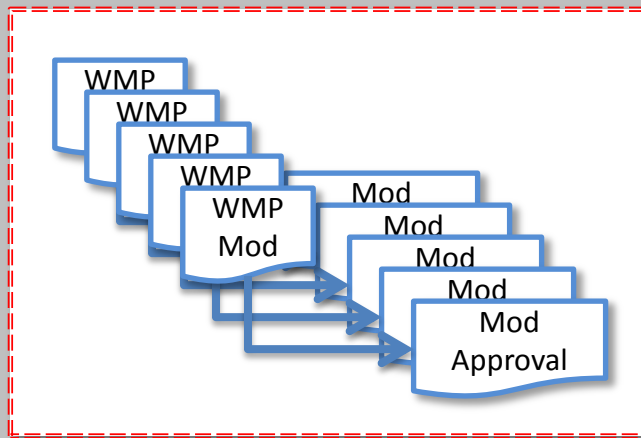
duplicated effort



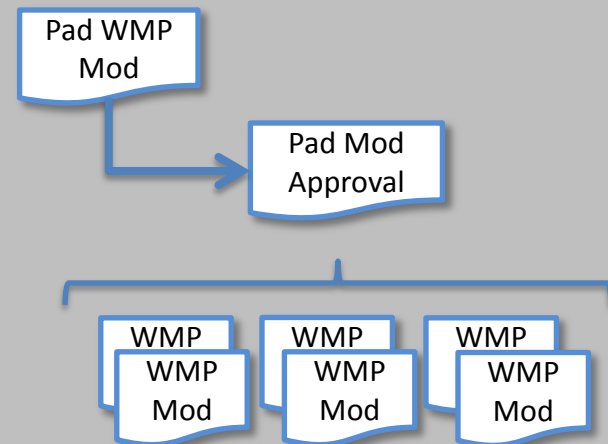
reduced effort

Overview

When drilling schedules change, modifying every WMP on the pad is tedious and introduces sources of error



Duplicated Effort




Reduced Effort

Program change: Well Pad WMPs

Every well work permit must be accompanied by a water management plan meeting the requirements of §22-6A-7 and §35-8-5.6.

WMP Pad Plan Application

WMP#: _____

 west virginia department of environmental protection
601 57th Street SE
Charleston, WV 25304-2345
Office of Oil and Gas
Phone: (304) 926-0450

**WATER MANAGEMENT PLAN/
WATER ADDENDUM**

- Horizontal Oil and Gas Well Permits
- Horizontal Oil and Gas Well Pads

DEP Office Use only

Date Received by Oil & Gas:
Administratively Complete – Oil & Gas: <input type="checkbox"/> Yes <input type="checkbox"/> No:
Date Received by Water Use:
Complete – Water Use: <input type="checkbox"/> Yes <input type="checkbox"/> No:

API: 047-_____-
(for modification requests, list all wells in Section II(b))

Section I - Operator Information

Operator Name: _____

Operator ID:	*Registered in the Frac Water Reporting Website? Yes <input type="checkbox"/> No <input type="checkbox"/>
Contact Name/Title (Water Resources Manager):	Contact Mailing Address:
Contact Phone:	Contact Email:

*If no, the operator will be required to register with the WVDEP Water Use Section, contact dep_water_use@wv.gov

Section II(a) – Water Management Plan Overview

Plan Type	Plan Status
<input type="checkbox"/> Well (individual)	<input type="checkbox"/> New (include full application)
<input type="checkbox"/> Well Pad	<input type="checkbox"/> Co-pending (include full application)
	<input type="checkbox"/> Approved (include previously approved pad plan plus sections I-III)
	<input type="checkbox"/> Modification* (include full application)

*All modifications for well WMPs will be converted to Well Pad WMPs unless otherwise requested

Well Number:	Well Pad Name (if applicable):	
Well/Well Pad Location (decimal degrees, NAD 83)		
Latitude:	Longitude:	County:

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Remodeled application

New application sub-types

New coverage details

New water use estimates

New date range stipulations

WMP Pad Plan Application Terminology

Well-WMP

- WMP application for a traditional, well-based WMP approval

Pad-WMP Application

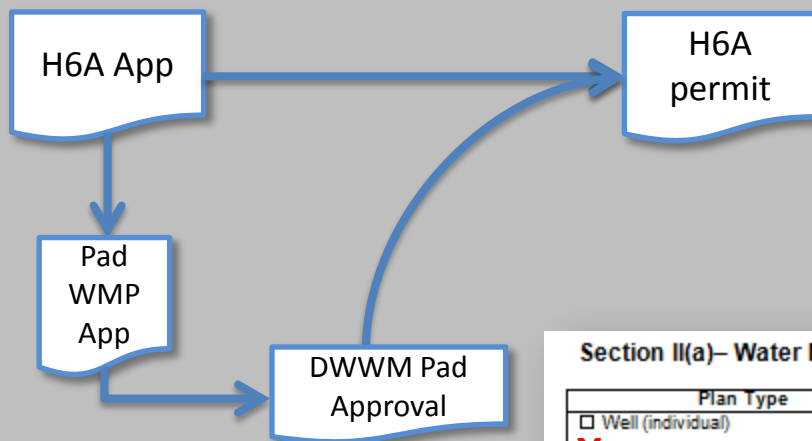
- WMP application for a comprehensive, well pad-based WMP approval

WMP Short-Form Application

- Sections I-III of the pad-WMP Application.

Pad planning scenarios

- First well on the pad (singular permit submission)



Section II(a)– Water Management Plan Overview

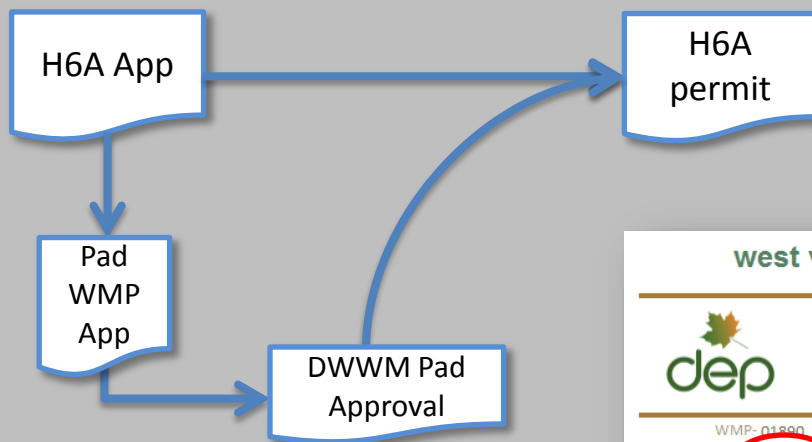
Plan Type	Plan Status
<input type="checkbox"/> Well (individual)	<input checked="" type="checkbox"/> New (include full application)
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Well Number: Well 1		Well Pad Name (if applicable): Well Pad Name	
<small>Well/Well Pad Location (decimal degrees, NAD 83)</small>			
	Latitude: Lat	Longitude: Long	County: County

Pad planning scenarios

- First well on the pad (singular permit submission)



west virginia department of environmental protection

 **Water Management Plan:**
Well Pad Overview 

WMP: 01890 Operator: Operator Name
Plan Type: Well Pad Well Pad Name County:

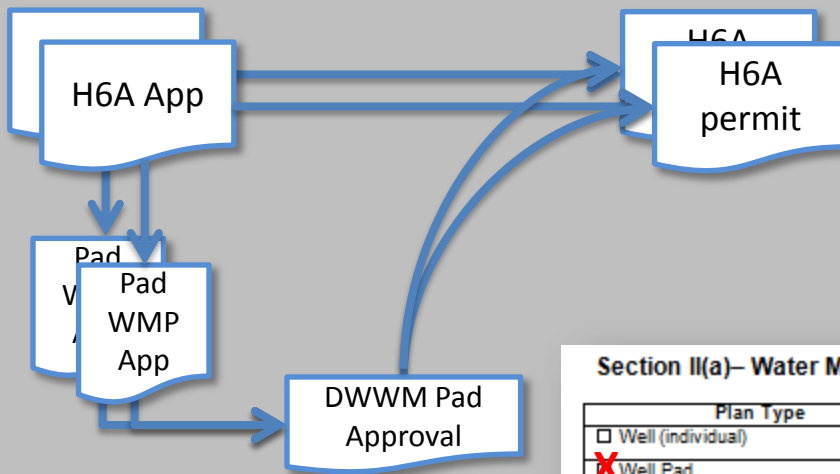
This Water Management Plan governs all water withdrawals associated the identified well pad. This plan supercedes any previously approved water management plans issued for the following wells. This plan is not in effect until at least one well-work permit identified below has been issued, and remains valid until all listed permits are released or expire.

WMP (old): API Number: Well Name/Number Lat: Long: Status:

WMP (old):	API Number:	Well Name/Number:	Lat:	Long:	Status:
	1047-000-00001	Well Name 1	38.00000	-80.00000	

Pad planning scenarios

- Co-pending applications (multiple permit submission)



Section II(a)– Water Management Plan Overview

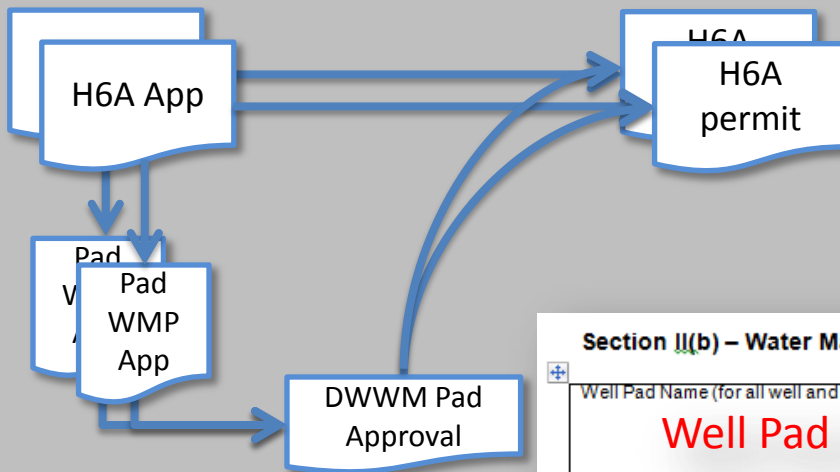
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<small>Well/Well Pad Location (decimal degrees, NAD 83)</small>			
<small>Latitude:</small> Lat		<small>Longitude:</small> Long	
		<small>County:</small> County	

Pad planning scenarios

- Co-pending applications (multiple permit submission)

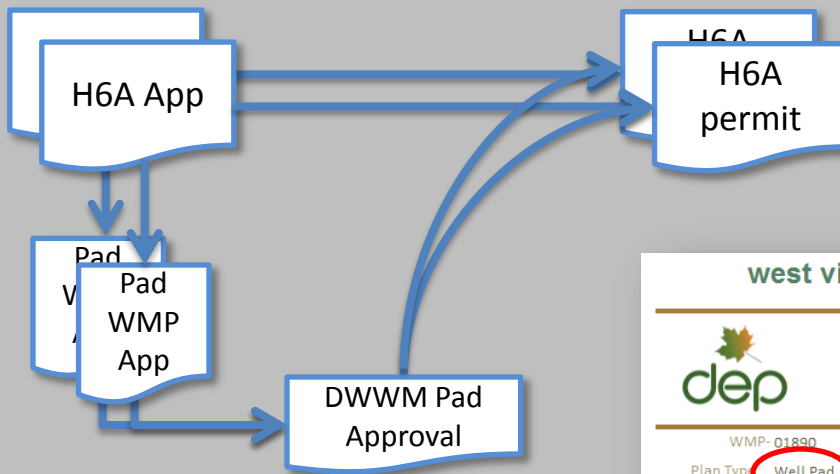


Section II(b) – Water Management Plan Coverage Detail (for pad plans only)



Well Pad Name (for all well and well pad plans):			County: County	
Well Pad Name			Location (decimal degrees, NAD83)	
WMP (old)	Well Number	API	Lat	Long
	Well 1		Lat	Long
	Well 2		Lat	Long
	Well 3		Lat	Long

Pad planning scenarios

- Co-pending applications (multiple permit submission)



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 **Water Management Plan:**
Well Pad Overview 

WMP: 01890 Operator: Operator Name
Plan Type: Well Pad Well Pad Name County:

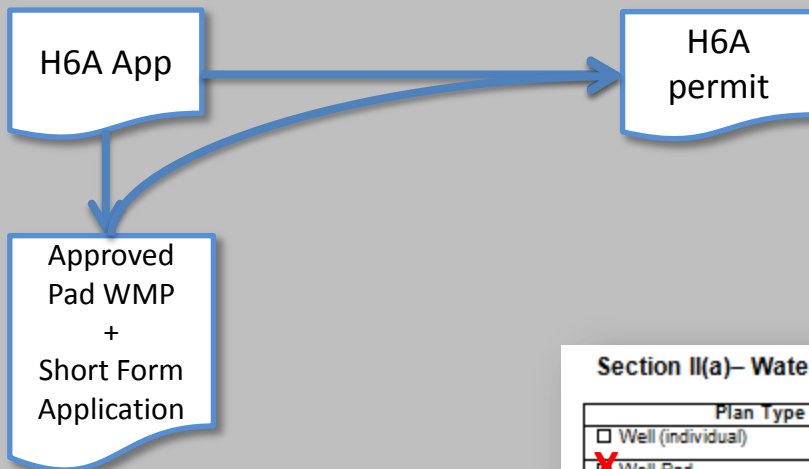
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WMP (old): API Number: Well Name/Number: Lat: Long: Status:

WMP (old)	API Number	Well Name/Number	Lat	Long	Status
	047-000-00001	Well Name 1	38.00000	-80.00000	
	047-000-00002	Well Name 2	38.00001	-80.00001	
	047-000-00003	Well Name 3	38.00002	-80.00002	

Pad planning scenarios

- Applications with approved WMPs (pad plan exists as part of issued permit)



Section II(a)– Water Management Plan Overview

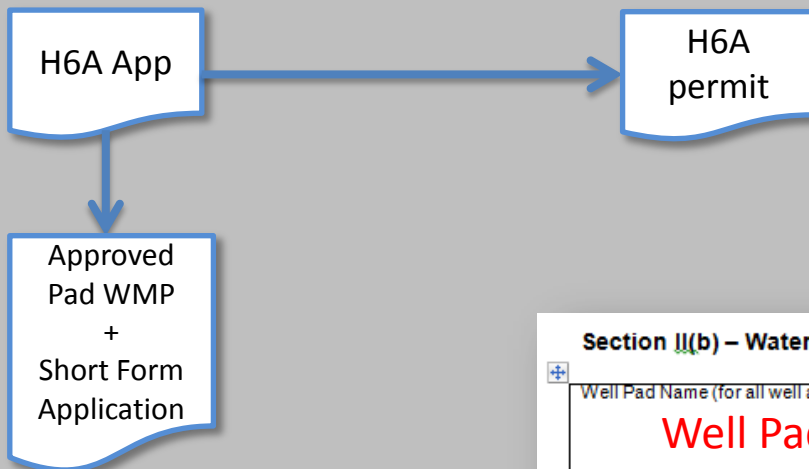
Plan Type	Plan Status
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Pad planning scenarios

- Applications with approved WMPs (pad plan exists as part of issued permit)

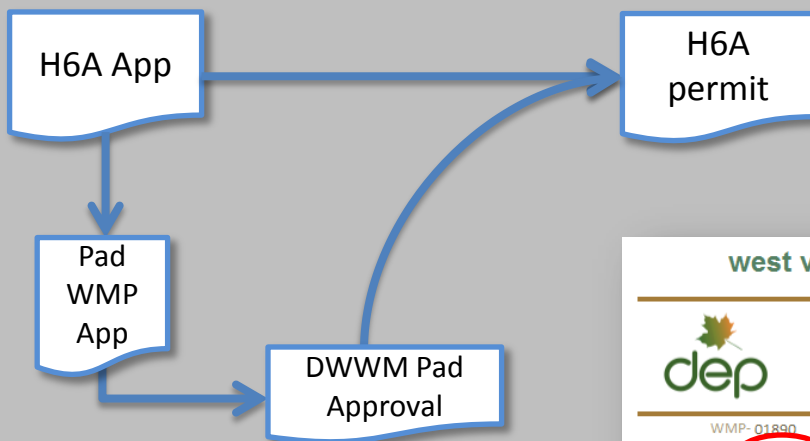


Section II(b) – Water Management Plan Coverage Detail (for pad plans only)

Well Pad Name (for all well and well pad plans):			County: County	
Well Pad Name			Location (decimal degrees, NAD83)	
WMP (old)	Well Number	API	Lat	Long
	Well 1	47-000-00001	Lat	Long
	Well 2	47-000-00002	Lat	Long
	Well 3	47-000-00003	Lat	Long
	Well 4		Lat	Long

Pad planning scenarios

- Applications with approved WMPs (pad plan exists as part of issued permit)



west virginia department of environmental protection

dep Water Management Plan: Well Pad Overview

WMP: 01890 Operator: Operator Name

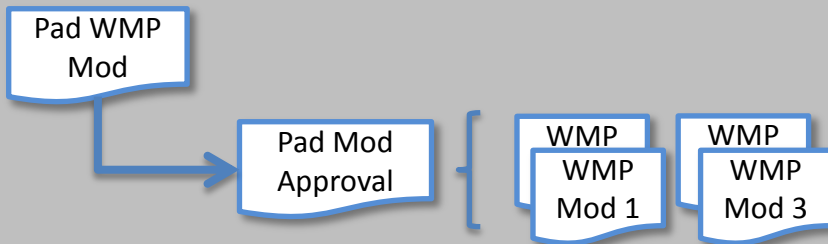
Plan Type: Well Pad Well Pad Name County:

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	047-000-00001	Well Name 1	38.00000	-80.00000	
	047-000-00002	Well Name 2	38.00001	-80.00001	
	047-000-00003	Well Name 3	38.00002	-80.00002	
	047-000-00004	Well Name 4	38.00003	-80.00003	

Pad planning scenarios

- WMP Modifications



Section II(a)– Water Management Plan Overview

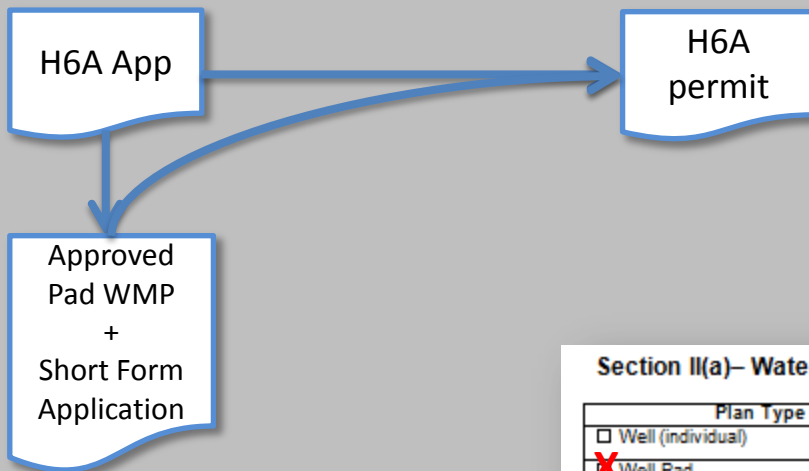
Plan Type	Plan Status
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	<small>Latitude:</small>	<small>Longitude:</small>	<small>County:</small>
	Lat	Long	County

Pad planning scenarios

- Applications with approved WMPs (pad plan exists as part of issued permit)



Section II(a)- Water Management Plan Overview

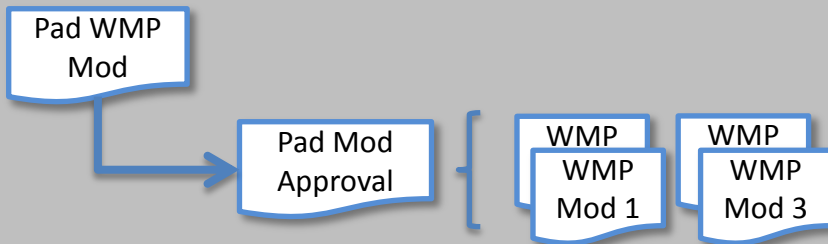
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	Latitude: Lat	Longitude: Long	County: County

Pad planning scenarios

- WMP Modifications



Section II(b) – Water Management Plan Coverage Detail (for pad plans only)

Well Pad Name (for all well and well pad plans):			County: County	
Well Pad Name			Location (decimal degrees, NAD83)	
WMP (old)	Well Number	API	Lat	Long
01000	Well 1	47-000-00001	Lat	Long
01001	Well 2	47-000-00002	Lat	Long
01002	Well 3	47-000-00003	Lat	Long
	Well 4	47-000-00004	Lat	Long

Pad planning scenarios

- Water use estimates and date ranges

Section III(a) – Source Water Overview

Estimated Water Needs:

	Gallons
Construction (compaction)	#
Drilling (cement, mud systems)	#
Hydraulic Fracturing	#
Post-Fracturing (coil tubing, drill-outs)	#
Reclamation (hydroseeding)	#
Incidental Use (dust suppression)	#
Total	#
Onsite storage capacity	#

Anticipated Withdrawal Dates

Pad Construction Start:	5/15/2014
Pad Reclamation End:	5/15/2019

The following water consumption estimates (in gallons) have been reported for this plan:

Construction:	210,000
Drilling Activities:	840,000
Hydraulic Fracture:	33,600,000
Post-Fracture:	210,000
Incidental Uses:	210,000
Reclamation Activities:	210,000
Total Water for Well Pad	210,000

Est. Construction Start:	5/15/2014
Est. Reclamation End:	5/15/2019

Summary

- Every permit application **MUST** be accompanied by a WMP
 - WMP = full application if a pad WMP has never been issued with an approved permit; or
 - WMP = approval + short form (sections 1-3 of WMP application)
- Withdrawal date range restrictions of 1 year have been removed
- Expanded water use estimates are required to better capture well pad water use needs

Questions?

- Contact

Mark Collins

(304) 926-0499 ext 1280

mark.c.collins@wv.gov