

WebPanel 1. Evaluation of current understanding for potential impacts of shale development

We evaluated the status of present scientific knowledge based on the number of directly relevant, peer-reviewed research articles found in Web of Science on 13 Mar 2014, using the phrases “hydraulic fracturing” and “shale” in combination with ecological impacts listed in Table 1. Current understanding was considered low if the threat was unique to shale development and <5 peer-reviewed, empirical studies were identified that directly focused on the topic (WebTable 1). These threats included contamination of surface water from equipment failure, illegal activities, and accidents; underground migration of contaminants; release of contaminants during storage; and cumulative impacts. Extensive literature has been published about these topics, but the vast majority of studies are predictive, correlative, or indirectly related to the threat. In contrast, current understanding was ranked high if the threat was not unique and >20 relevant peer-reviewed studies were identified (related to shale development or other anthropogenic activities). These threats included climate change, habitat loss/fragmentation, siltation, noise pollution, and light pollution (WebTable 1). Finally, two threats – diminished stream flow and air pollution – did not fall into either the high or low ranking categories. In both cases, the threats are considered somewhat unique because, although they are associated with other anthropogenic activities, some aspects are unusual (eg winter O₃) with respect to shale development (WebTable 1). Since >20 peer-reviewed studies were identified but relatively few were empirical and focused on shale development, current understanding was ranked medium for these two threats.

Scientific understanding is directly influenced by the quantity and nature (eg correlative versus experimental) of data available from peer-reviewed studies. Data quantity can be approximated by the number of peer-reviewed studies published. When studies are relatively scarce, scientific understanding is generally limited (eg Darwall et al. 2011). This is the case for multiple threats related to shale development, and we therefore consider publication number to be a useful metric in our analysis of research priorities (Table 1).

Evaluation of other prioritization criteria

Spatial extent was evaluated based on the maximum area in which impacts were expected to occur: <1000 ha (low), 1000–100 000 ha (medium), or >100 000 ha (high) from the site of occurrence. Temporal extent was classified based on expected duration of impacts: <6 months (low), between 6 months and 10 years (medium), or >10 years after the onset of occurrence. Mitigation difficulty was evaluated subjectively, relative to the spatial extent and accessibility of the affected site, as well as the current existence of technologies and strategies for remediation.

WebTable 1. Evaluation of current understanding for each potential ecological impact of shale development

Source of ecological impact	Empirical studies directly focused on threat	Relevant reviews or predictive/indirect [†] studies	Is threat unique to shale development? (unique attributes)	Current understanding
Contamination of surface water from equipment failure, illegal activities, and accidents	<5 (none identified)	Gordalla <i>et al.</i> (2013); Kiviat (2013); Riedl <i>et al.</i> (2013); Vidic <i>et al.</i> (2013); Entrekin <i>et al.</i> (2011); Gregory (2011); Lutz <i>et al.</i> (2013); Maloney and Yoxtheimer (2012); Olmstead <i>et al.</i> (2013); Papoulias and Velasco (2013); Rahm <i>et al.</i> (2013); Rahm and Riha (2012); Rozell and Reaven (2011)	Yes (horizontal drilling, fluid volume, combinations of contaminants)	Low
Underground migration of contaminants	<5 Warner <i>et al.</i> (2012)	Flewelling and Sharma (2014); Gassiat <i>et al.</i> (2013); Gordalla <i>et al.</i> (2013); Jackson <i>et al.</i> (2013); Kiviat (2013); Rahm <i>et al.</i> (2013); Riedl <i>et al.</i> (2013); Vidic <i>et al.</i> (2013); Rahm and Riha (2012); Davies (2011); DiGiulio <i>et al.</i> (2011); Entrekin <i>et al.</i> (2011); Gregory <i>et al.</i> (2011); Osborn <i>et al.</i> (2011); Rozell and Reaven (2011)	Yes (horizontal drilling, physical properties of shale, fluid volume, combinations of contaminants)	Low
Release of contaminants during waste storage or disposal	<5 (none identified)	Entrekin <i>et al.</i> (2011); Riedl <i>et al.</i> (2013); Kiviat (2013); Lutz <i>et al.</i> (2013); Vidic <i>et al.</i> (2013); Gordalla <i>et al.</i> (2013); Gregory <i>et al.</i> (2012); Lutz <i>et al.</i> (2013); Maloney and Yoxtheimer (2012); Olmstead <i>et al.</i> (2013); Rahm <i>et al.</i> (2013); Rahm and Riha (2012); Rozell and Reaven (2011)	Yes (combinations of contaminants, waste volume)	Low
Land application of wastewater	<5 DeWalle and Galeone (1990); Adams (2011)	Riedl <i>et al.</i> (2013)	Yes (waste volume, combinations of contaminants)	Low
Cumulative impacts	<5 Jones and Pejchar (2013); Slonecker <i>et al.</i> (2012)	Hopkins <i>et al.</i> (2013) [‡] ; Davis and Robinson (2012); Evans and Kiesecker (2014); Altenburger <i>et al.</i> (2003) [*]	Yes (unique attributes of all other threats as well as other existing economic activities)	Low
Diminished stream flow	<5 (none identified)	>20^{**} Nicot <i>et al.</i> (2014); Kiviat (2013); Mitchell <i>et al.</i> (2013); Nicot and Scanlon (2012); Entrekin <i>et al.</i> (2011); Gregory <i>et al.</i> (2011); Anderson <i>et al.</i> (2006) [*]	Somewhat (volume and geographic pattern of water withdrawals)	Medium
Air pollution	<5 Gilman <i>et al.</i> (2013); Carter and Seinfeld (2012); Martin <i>et al.</i> (2011)	>20^{**} Field <i>et al.</i> (2014); Roy <i>et al.</i> (2014); Gilman <i>et al.</i> (2013); McKenzie <i>et al.</i> (2012); Pétron <i>et al.</i> (2012); Karnofsky <i>et al.</i> (2005); Donaldson and Borm (1998) [*]	Somewhat (except winter ozone)	Medium
Climate-change contribution	Caulton <i>et al.</i> (2014) [‡] ; Allen (2013); Levi (2013); Alvarez <i>et al.</i> (2012); Burnham <i>et al.</i> (2012); Cathles <i>et al.</i> (2012); Cathles (2012); Howarth <i>et al.</i> (2012); Schrag (2012); Howarth <i>et al.</i> (2011); Stephenson <i>et al.</i> (2011)	>20^{**} Stern and Kaufmann (2013) [‡] ; Shoemaker and Schrag (2010) [‡]	No	High
Habitat loss/fragmentation	Gilbert and Chalfoun (2011); Beckmann <i>et al.</i> (2012); Drohan <i>et al.</i> (2012); Jones and Pejchar (2013); Sawyer <i>et al.</i> (2009); Slonecker <i>et al.</i> (2012); Webb <i>et al.</i> (2012)	>20^{**} Kiviat (2013); Fischer and Lindenmayer (2007) [‡] ; Aguilar <i>et al.</i> (2006) [‡] ; Northrup and Wittemyer (2012) [‡] ; Ries <i>et al.</i> (2004)	No	High
Siltation	(none identified)	>20^{**} Weltman-Fahs and Taylor (2013); Donohue and Molinos (2009) [‡] ; Entrekin <i>et al.</i> (2011)	No	High
Noise pollution	Blickley <i>et al.</i> (2012)	>20^{**} Barber <i>et al.</i> (2010) [*]	No	High
Light pollution	(none identified)	>20^{**} Longcore and Rich (2004) [*]	No	High

Notes: Values/determinations used to quantify understanding for each impact are provided in bold. [†]Includes empirical research focused on related topics and/or correlative studies. [‡]Given the global nature of this threat, predictive studies are included in this column. ^{*}Not specific to shale development. ^{**}List is not comprehensive, but includes reviews where relevant citations can be found.

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■ Additional references

These references provide background on shale development and the effects of some of the associated processes on biota.

Introduction

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Light, noise, and air pollution

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WebTable 2. Violations and spill information from unconventional oil and gas extraction during 2013 reported by the Pennsylvania Department of Environmental Protection and contained in their oil and gas management compliance-reporting database, including both self-reported spills and violations from routine inspections.

Inspection ID	Inspection Date	Insp Type	API Permit	Inspection Result Description	Violation ID	Violation Code ¹	Spill (y/n) ²	Products spilled	Reported water impact	Location	Amount	Spatial extent	Was spill reported by industry?	Cause of accident	Time between spill and reporting
2128010	1/4/13	Drilling/Alteration	019-22012	Violation(s) Noted	657084	201F - Failure to notify DEP, landowner, political subdivision, or coal owner 24 hrs prior to commencement of drilling									
2128010	1/4/13	Drilling/Alteration	019-22012	Violation(s) Noted	657084	201F - Failure to notify DEP, landowner, political subdivision, or coal owner 24 hrs prior to commencement of drilling									
2128879	1/2/13	Incident-Response to Accident or Event	115-20856	Viol(s) Noted & Immediately Corrected	657268	78.56(1) - Pit and tanks not constructed with sufficient capacity to contain pollutional substances.	y	diesel	not reported	onto containment then well pad	25 gallons	not reported	yes	Employee was fueling a heater that was situated on containment. The tanks overflowed onto containment then onto the well pad.	not reported, but 2 days until someone sampled
2128932	1/9/13	Routine/Complete Inspection	005-30804	Violation(s) Noted	658033	206C - Failure to restore well site within nine months after completion of drilling, failure to remove all pits, drilling supplies and equipment not needed for production.									
2129293	1/10/13	Routine/Complete Inspection	005-30861	Violation(s) Noted	658039	206C - Failure to restore well site within nine months after completion of drilling, failure to remove all pits, drilling supplies and equipment not needed for production.									
2129336	1/10/13	Routine/Complete Inspection	047-24545	Violation(s) Noted	657465	210UNPLUG - Failure to plug a well upon abandonment									
2129379	1/10/13	Routine/Complete Inspection	047-24546	Violation(s) Noted	657493	210UNPLUG - Failure to plug a well upon abandonment									
2129397	1/10/13	Routine/Complete Inspection	047-24547	Violation(s) Noted	657497	210UNPLUG - Failure to plug a well upon abandonment									
2129405	1/10/13	Routine/Complete Inspection	047-24548	Violation(s) Noted	657504	210UNPLUG - Failure to plug a well upon abandonment									
2129490	1/9/13	Drilling/Alteration	015-21962	Violation(s) Noted	657521	78.12 - Oil or gas well drilled, altered or operated not in accordance with a permit or the regulations.									

2129596	1/10/13	Routine/Complete Inspection	047-24545	Violation(s) Noted	657548	206C - Failure to restore well site within nine months after completion of drilling, failure to remove all pits, drilling supplies and equipment not needed for production.									
2129614	1/4/13	Routine/Complete Inspection	015-20484	Violation(s) Noted	657553	201G - Failure to post permit number, operator name, address, telephone number in a conspicuous manner at the site during drilling									
2130024	1/10/13	Routine/Complete Inspection	081-20298	Violation(s) Noted	659930	402CSL - Failure to adopt pollution prevention measures required or prescribed by DEP by handling materials that create a danger of pollution.	y	not reported	not reported	outside of containment	not reported	not reported	no	not reported	not reported
2130024	1/10/13	Routine/Complete Inspection	081-20298	Violation(s) Noted	659931	78.54 - Failure to properly control or dispose of industrial or residual waste to prevent pollution of the waters of the Commonwealth.	y	not reported	not reported	outside of containment	not reported	not reported	no	not reported	not reported
2130024	1/10/13	Routine/Complete Inspection	081-20298	Violation(s) Noted	659932	91.33A - Failure to notify DEP of pollution incident. No phone call made forthwith	y	not reported	not reported	outside of containment	not reported	not reported	no	not reported	not reported
2130024	1/10/13	Routine/Complete Inspection	081-20298	Violation(s) Noted	659929	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	not reported	not reported	outside of containment	not reported	not reported	no	not reported	not reported
2130118	1/14/13	Routine/Complete Inspection	033-27057	Viol(s) Noted & Immediately Corrected	657643	91.34A - Failure to take all necessary measures to prevent spill. Inadequate diking, potential pollution									
2130483	1/14/13	Complaint Inspection	113-20154	Violation(s) Noted	657721	402CSL - Failure to adopt pollution prevention measures required or prescribed by DEP by handling materials that create a danger of pollution.	y	pollutional substances	y, but unclear	well pad	not reported	not reported	no	Rig is staged on uncompleted impoundment pad at front of the location, uncompleted impoundment, failure to properly store waste	not reported
2130483	1/14/13	Complaint Inspection	113-20154	Violation(s) Noted	657718	78.54 - Failure to properly control or dispose of industrial or residual waste to prevent pollution of the waters of the Commonwealth.	y	pollutional substances	y, but unclear	well pad	not reported	not reported	no	Rig is staged on uncompleted impoundment pad at front of the location, uncompleted impoundment, failure to properly store waste	not reported
2130483	1/14/13	Complaint Inspection	113-20154	Violation(s) Noted	657719	91.33A - Failure to notify DEP of pollution incident. No phone call made forthwith	y	pollutional substances	y, but unclear	well pad	not reported	not reported	no	Rig is staged on uncompleted impoundment pad at front of the location, uncompleted impoundment, failure to properly store waste	not reported

2130483	1/14/13	Complaint Inspection	113-20154	Violation(s) Noted	657720	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	pollutional substances	y, but unclear	well pad	not reported	not reported	no	Rig is staged on uncompleted impoundment pad at front of the location, uncompleted impoundment, failure to properly store waste	not reported
2130566	1/15/13	Routine/Complete Inspection	015-20231	Violation(s) Noted	657736	206REST - Failure to restore site w/in 9 months of completion of drilling or plugging									
2130687	1/9/13	Incident-Response to Accident or Event	015-21214	Viol(s) Noted & Immediately Corrected	657845	402CSL - Failure to adopt pollution prevention measures required or prescribed by DEP by handling materials that create a danger of pollution.	y	produced water	not reported	well pad	10 gallons	not reported	yes	Result of a sight glass breaking on a water truck	not reported, arrived for inspection 7 days later
2130687	1/9/13	Incident-Response to Accident or Event	015-21214	Viol(s) Noted & Immediately Corrected	657846	78.57 - Failure to post pit approval number	y	produced water	not reported	well pad	10 gallons	not reported	yes	Result of a sight glass breaking on a water truck	not reported, arrived for inspection 7 days later
2130687	1/9/13	Incident-Response to Accident or Event	015-21214	Viol(s) Noted & Immediately Corrected	657847	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	produced water	not reported	well pad	10 gallons	not reported	yes	Result of a sight glass breaking on a water truck	not reported, arrived for inspection 7 days later
2130778	1/14/13	Routine/Partial Inspection	131-20197	Viol(s) Noted & Immediately Corrected	657866	91.34A - Failure to take all necessary measures to prevent spill. Inadequate diking, potential pollution									
2130946	1/15/13	Routine/Complete Inspection	015-20431	Violation(s) Noted	657981	206REST - Failure to restore site w/in 9 months of completion of drilling or plugging									
2131621	1/17/13	Routine/Complete Inspection	005-30652	Violation(s) Noted	658163	206C - Failure to restore well site within nine months after completion of drilling, failure to remove all pits, drilling supplies and equipment not needed for production.									
2131814	1/17/13	Routine/Partial Inspection	081-20584	Violation(s) Noted	658222	402CSL - Failure to adopt pollution prevention measures required or prescribed by DEP by handling materials that create a danger of pollution.									
2131814	1/17/13	Routine/Partial Inspection	081-20584	Violation(s) Noted	658219	601.101 - O&G Act 223-General. Used only when a specific O&G Act code cannot be used									
2131814	1/17/13	Routine/Partial Inspection	081-20584	Violation(s) Noted	658220	78.54 - Failure to properly control or dispose of industrial or residual waste to prevent pollution of the waters of the Commonwealth.									

2131814	1/17/13	Routine/Partial Inspection	081-20584	Violation(s) Noted	658221	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.									
2131931	1/18/13	Routine/Partial Inspection	115-21027	Violation(s) Noted	658288	601.101 - O&G Act 223-General. Used only when a specific O&G Act code cannot be used									
2132436	1/23/13	Administrative/File Review	019-21719	Violation(s) Noted	658483	210UNPLUG - Failure to plug a well upon abandonment									
2132470	1/17/13	Incident-Response to Accident or Event	131-20075	Violation(s) Noted	658505	402CSL - Failure to adopt pollution prevention measures required or prescribed by DEP by handling materials that create a danger of pollution.	y	brine	not reported	well pad	not reported	not reported	yes	We discovered a leak had sprung from the pressurized brine transfer line and a fluid had begun to leak directly on to the surface of the ground on the Well Pad.	not reported
2132470	1/17/13	Incident-Response to Accident or Event	131-20075	Violation(s) Noted	658543	601.101 - O&G Act 223-General. Used only when a specific O&G Act code cannot be used	y	brine	not reported	well pad	not reported	not reported	yes	We discovered a leak had sprung from the pressurized brine transfer line and a fluid had begun to leak directly on to the surface of the ground on the Well Pad.	not reported
2132470	1/17/13	Incident-Response to Accident or Event	131-20075	Violation(s) Noted	658507	78.56(1) - Pit and tanks not constructed with sufficient capacity to contain polluttional substances.	y	brine	not reported	well pad	not reported	not reported	yes	We discovered a leak had sprung from the pressurized brine transfer line and a fluid had begun to leak directly on to the surface of the ground on the Well Pad.	not reported
2132470	1/17/13	Incident-Response to Accident or Event	131-20075	Violation(s) Noted	658506	91.34A - Failure to take all necessary measures to prevent spill. Inadequate diking, potential pollution	y	brine	not reported	well pad	not reported	not reported	yes	We discovered a leak had sprung from the pressurized brine transfer line and a fluid had begun to leak directly on to the surface of the ground on the Well Pad.	not reported
2132470	1/17/13	Incident-Response to Accident or Event	131-20075	Violation(s) Noted	658508	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	brine	not reported	well pad	not reported	not reported	yes	We discovered a leak had sprung from the pressurized brine transfer line and a fluid had begun to leak directly on to the surface of the ground on the Well Pad.	not reported
2132479	1/14/13	Incident-Response to Accident or Event	035-21265	Viol(s) Noted & Immediately Corrected	658520	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y, but unclear	not reported	not reported	not reported	not reported	not reported	assuming yes, due to lack of violation	not reported	not reported
2132716	1/23/13	Routine/Complete Inspection	081-21059	Violation(s) Noted	658741	601.101 - O&G Act 223-General. Used only when a specific O&G Act code cannot be used									

2132716	1/23/13	Routine/Complete Inspection	081-21059	Violation(s) Noted	658740	91.34A - Failure to take all necessary measures to prevent spill. Inadequate diking, potential pollution										
2133244	1/8/13	Drilling/Alteration	015-20855	Violation(s) Noted	658699	78.12 - Oil or gas well drilled, altered or operated not in accordance with a permit or the regulations.										
2133250	1/8/13	Drilling/Alteration	015-20962	Violation(s) Noted	658701	78.12 - Oil or gas well drilled, altered or operated not in accordance with a permit or the regulations.										
2133254	1/8/13	Drilling/Alteration	015-20961	Violation(s) Noted	658703	78.12 - Oil or gas well drilled, altered or operated not in accordance with a permit or the regulations.										
2133356	1/22/13	Routine/Complete Inspection	131-20120	Violation(s) Noted	658743	210UNPLUG - Failure to plug a well upon abandonment										
2133636	1/10/13	Incident-Response to Accident or Event	125-24473	Violation(s) Noted	658837	78.54 - Failure to properly control or dispose of industrial or residual waste to prevent pollution of the waters of the Commonwealth.	y, but unclear	industrial waste	y, but unclear	not reported	not reported	not reported	assuming yes, due to lack of violation	A hammer union was leaking into the secondary containment of the frac tanks. Two tears/rips in the liner system were found after the containment was vac'd out which were repaired.	not reported, Inspection 2 days later	
2134438	1/24/13	Routine/Complete Inspection	117-21556	Violation(s) Noted	659313	201E - Failure to comply with terms and conditions of permit	y, but unclear	brine / flowback	not reported	not reported	not reported	not reported	assuming no, routine inspection	not reported	not reported	
2134438	1/24/13	Routine/Complete Inspection	117-21556	Violation(s) Noted	659311	78.56(1) - Pit and tanks not constructed with sufficient capacity to contain pollitional substances.	y, but unclear	brine / flowback	not reported	not reported	not reported	not reported	assuming no, routine inspection	not reported	not reported	
2134438	1/24/13	Routine/Complete Inspection	117-21556	Violation(s) Noted	659312	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y, but unclear	brine / flowback	not reported	not reported	not reported	not reported	assuming no, routine inspection	not reported	not reported	
2134508	1/30/13	Routine/Complete Inspection	015-21494	Violation(s) Noted	659342	206C - Failure to restore well site within nine months after completion of drilling, failure to remove all pits, drilling supplies and equipment not needed for production.										
2135159	1/29/13	Drilling/Alteration	115-20721	Violation(s) Noted	659529	78.54 - Failure to properly control or dispose of industrial or residual waste to prevent pollution of the waters of the Commonwealth.	y	drum of "Clean Up"	not reported	onto containment	5 gallons	not reported	assuming no, routine inspection	Drum damaged by possible forklift puncture.	not reported	
2135764	1/31/13	Drilling/Alteration	065-26995	Violation(s) Noted	659686	601.101 - O&G Act 223-General. Used only when a specific O&G Act code cannot be used										

2135767	1/31/13	Drilling/Alteration	065-26996	Violation(s) Noted	659687	601.101 - O&G Act 223-General. Used only when a specific O&G Act code cannot be used										
2136091	2/4/13	Incident-Response to Accident or Event	019-21781	Violation(s) Noted	659764	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	fracturing fluid	not reported	ground	20 bbls	not reported	assuming yes, due to lack of violation	not reported	not reported	
2136460	1/29/13	Routine/Complete Inspection	015-22238	Violation(s) Noted	659861	78.86 - Failure to report defective, insufficient, or improperly cemented casing w/in 24 hrs or submit plan to correct w/in 30 days										
2136546	2/6/13	Drilling/Alteration	015-20962	Violation(s) Noted	659884	78.11 - Well drilled or operated without a permit or registration from DEP.										
2136548	1/31/13	Routine/Complete Inspection	015-21841	Violation(s) Noted	659886	210UNPLUG - Failure to plug a well upon abandonment										
2137095	2/4/13	Routine/Complete Inspection	117-21498	Violation(s) Noted	660021	78.56(1) - Pit and tanks not constructed with sufficient capacity to contain polluttional substances.	y	produced water	not reported	well pad	63 gallons	not reported	unknown, routine inspection, but no violation	not reported	not reported	
2137095	2/4/13	Routine/Complete Inspection	117-21498	Violation(s) Noted	660022	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	produced water	not reported	well pad	63 gallons	not reported	unknown, routine inspection, but no violation	not reported	not reported	
2137184	1/31/13	Drilling/Alteration	015-22265	Violation(s) Noted	660060	78.54 - Failure to properly control or dispose of industrial or residual waste to prevent pollution of the waters of the Commonwealth.	y, but unclear	not reported	y, but unclear	not reported	not reported	not reported	assuming no	not reported	not reported	
2137281	1/31/13	Routine/Complete Inspection	015-21805	Viol(s) Noted & Immediately Corrected	660100	210UNPLUG - Failure to plug a well upon abandonment										
2137666	2/6/13	Follow-up Inspection	065-26481	Outstanding Violations - Viols Req'd	660195	210UNPLUG - Failure to plug a well upon abandonment										
2137666	2/6/13	Follow-up Inspection	065-26481	Outstanding Violations - Viols Req'd	660195	210UNPLUG - Failure to plug a well upon abandonment										
2137747	1/31/13	Routine/Partial Inspection	015-22404	Violation(s) Noted	660206	102.22 - Failure to achieve permanent stabilization of earth disturbance activity.										
2137747	1/31/13	Routine/Partial Inspection	015-22404	Violation(s) Noted	660205	102.4 - Failure to minimize accelerated erosion, implement E&S plan, maintain E&S controls. Failure to stabilize site until total site restoration under OGA Sec 206(c)(d)										

2138004	2/5/13	Follow-up Inspection	115-20177	Violation(s) & Outstanding Violations	660265	691.1 - Clean Streams Law-General. Used only when a specific CLS code cannot be used	y	production fluid	not reported	on containment	42 gallons	not reported	yes	The spill occurred as result of a production fluid tank falling off a front end loader as the tank was being mobilized off-site as Cabot was in preparation to remove the mud shelf section of the pit	12 hours
2138004	2/5/13	Follow-up Inspection	115-20177	Violation(s) & Outstanding Violations	660266	78.57 - Failure to post pit approval number	y	production fluid	not reported	on containment	42 gallons	not reported	yes	The spill occurred as result of a production fluid tank falling off a front end loader as the tank was being mobilized off-site as Cabot was in preparation to remove the mud shelf section of the pit	12 hours
2138004	2/5/13	Follow-up Inspection	115-20177	Violation(s) & Outstanding Violations	660267	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	production fluid	not reported	on containment	42 gallons	not reported	yes	The spill occurred as result of a production fluid tank falling off a front end loader as the tank was being mobilized off-site as Cabot was in preparation to remove the mud shelf section of the pit	12 hours
2138579	2/7/13	Follow-up Inspection	115-20177	Violation(s) & Outstanding Violations	660493	691.1 - Clean Streams Law-General. Used only when a specific CLS code cannot be used	y	dark substances	not reported	well pad	not reported	not reported	no	not reported	not reported
2138579	2/7/13	Follow-up Inspection	115-20177	Violation(s) & Outstanding Violations	660494	78.56(1) - Pit and tanks not constructed with sufficient capacity to contain polluttional substances.	y	dark substances	not reported	well pad	not reported	not reported	no	not reported	not reported
2138579	2/7/13	Follow-up Inspection	115-20177	Violation(s) & Outstanding Violations	660495	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	dark substances	not reported	well pad	not reported	not reported	no	not reported	not reported
2138808	2/12/13	Drilling/Alteration	015-21962	Violation(s) Noted	660526	201PRMT - Drilling, altering, or operating a well without a permit									
2138824	2/12/13	Drilling/Alteration	015-21962	Violation(s) Noted	660533	201PRMT - Drilling, altering, or operating a well without a permit									
2139026	2/7/13	Routine/Complete Inspection	081-21000	Violation(s) Noted	660605	201G - Failure to post permit number, operator name, address, telephone number in a conspicuous manner at the site during drilling	y	drilling mud	not reported	well pad	not reported	not reported	no	not reported	not reported
2139026	2/7/13	Routine/Complete Inspection	081-21000	Violation(s) Noted	660608	402CSL - Failure to adopt pollution prevention measures required or prescribed by DEP by handling materials that create a danger of pollution.	y	drilling mud	not reported	well pad	not reported	not reported	no	not reported	not reported

2139026	2/7/13	Routine/Complete Inspection	081-21000	Violation(s) Noted	660610	601.101 - O&G Act 223-General. Used only when a specific O&G Act code cannot be used	y	drilling mud	not reported	well pad	not reported	not reported	no	not reported	not reported
2139026	2/7/13	Routine/Complete Inspection	081-21000	Violation(s) Noted	660606	78.55 - No Control and Disposal/PPC plan or failure to implement PPC plan	y	drilling mud	not reported	well pad	not reported	not reported	no	not reported	not reported
2139026	2/7/13	Routine/Complete Inspection	081-21000	Violation(s) Noted	660609	78.56(1) - Pit and tanks not constructed with sufficient capacity to contain polluttional substances.	y	drilling mud	not reported	well pad	not reported	not reported	no	not reported	not reported
2139026	2/7/13	Routine/Complete Inspection	081-21000	Violation(s) Noted	660611	91.33A - Failure to notify DEP of pollution incident. No phone call made forthwith	y	drilling mud	not reported	well pad	not reported	not reported	no	not reported	not reported
2139026	2/7/13	Routine/Complete Inspection	081-21000	Violation(s) Noted	660607	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	drilling mud	not reported	well pad	not reported	not reported	no	not reported	not reported
2139416	2/13/13	Routine/Complete Inspection	081-21059	Viol(s) Noted & Immediately Corrected	660717	78.56(1) - Pit and tanks not constructed with sufficient capacity to contain polluttional substances.	y	not reported	not reported	well pad	not reported	not reported	assuming no, routine inspection	not reported	not reported
2139416	2/13/13	Routine/Complete Inspection	081-21059	Viol(s) Noted & Immediately Corrected	660718	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	not reported	not reported	well pad	not reported	not reported	assuming no, routine inspection	not reported	not reported
2139427	2/13/13	Routine/Complete Inspection	081-20748	Viol(s) Noted & Immediately Corrected	660719	78.56(1) - Pit and tanks not constructed with sufficient capacity to contain polluttional substances.	y	not reported	not reported	not reported	not reported	not reported	assuming no, routine inspection	not reported	not reported
2139427	2/13/13	Routine/Complete Inspection	081-20748	Viol(s) Noted & Immediately Corrected	660720	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	not reported	not reported	not reported	not reported	not reported	assuming no, routine inspection	not reported	not reported
2139455	2/13/13	Drilling/Alteration	015-21963	Violation(s) Noted	660728	78.12 - Oil or gas well drilled, altered or operated not in accordance with a permit or the regulations.									
2139488	2/13/13	Drilling/Alteration	015-21962	Violation(s) Noted	660740	78.12 - Oil or gas well drilled, altered or operated not in accordance with a permit or the regulations.									
2139777	2/5/13	Incident-Response to Accident or Event	013-20012	Viol(s) Noted & Immediately Corrected	660859	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	antifreeze	na	not reported	1 gallon	not reported	assuming yes, due to lack of violation	Broken line on a pumper truck.immediately cleaned up.	not reported
2139958	2/5/13	Plugging(Includes Plugged/Mined Through)	115-20032	Violation(s) Noted	660888	210UNPLUG - Failure to plug a well upon abandonment									

2140159	1/3/13	Incident-Response to Accident or Event	125-24730	Violation(s) Noted	664425	78.54 - Failure to properly control or dispose of industrial or residual waste to prevent pollution of the waters of the Commonwealth.	y, but unclear	not reported	y, but unclear	not reported	not reported	not reported	assuming yes, due to lack of violation	not reported	not reported
2140654	1/29/13	Incident-Response to Accident or Event	115-20378	Violation(s) Noted	661065	78.57 - Failure to post pit approval number	y	production fluid	not reported	near wells	20 gallons	not reported	yes	Water was in the line and froze which blew out the plug	not reported
2140716	2/12/13	Incident-Response to Accident or Event	115-20715	Violation(s) Noted	661068	78.57 - Failure to post pit approval number	y	production fluid	not reported	not reported	10 gallons	not reported	yes	Frozen liquid broke the line causing the (10) gallon	1 hour and 40 minutes, they arrived onsite 10 days later
2140761	2/20/13	Routine/Complete Inspection	117-20330	Violation(s) Noted	661236	402CSL - Failure to adopt pollution prevention measures required or prescribed by DEP by handling materials that create a danger of pollution.	y	not reported	not reported	not reported	not reported, puddle found	not reported	no	Containment around separator bulging w/ ice.	not reported
2140761	2/20/13	Routine/Complete Inspection	117-20330	Violation(s) Noted	661237	78.54 - Failure to properly control or dispose of industrial or residual waste to prevent pollution of the waters of the Commonwealth.	y	not reported	not reported	not reported	not reported, puddle found	not reported	no	Containment around separator bulging w/ ice.	not reported
2140761	2/20/13	Routine/Complete Inspection	117-20330	Violation(s) Noted	661079	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	not reported	not reported	not reported	not reported, puddle found	not reported	no	Containment around separator bulging w/ ice.	not reported
2141494	2/19/13	Routine/Complete Inspection	117-21592	Violation(s) Noted	661189	301CSL - Stream discharge of IW, includes drill cuttings, oil, brine and/or silt	y	brine / flowback	not reported	well pad, ditches, sediment basin	not reported	not reported	assuming no, routine inspection	not reported	not reported
2141494	2/19/13	Routine/Complete Inspection	117-21592	Violation(s) Noted	661190	401 CSL - Discharge of pollutional material to waters of Commonwealth.	y	brine / flowback	not reported	well pad, ditches, sediment basin	not reported	not reported	assuming no, routine inspection	not reported	not reported
2141494	2/19/13	Routine/Complete Inspection	117-21592	Violation(s) Noted	661191	78.56(1) - Pit and tanks not constructed with sufficient capacity to contain pollutional substances.	y	brine / flowback	not reported	well pad, ditches, sediment basin	not reported	not reported	assuming no, routine inspection	not reported	not reported
2141494	2/19/13	Routine/Complete Inspection	117-21592	Violation(s) Noted	661192	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	brine / flowback	not reported	well pad, ditches, sediment basin	not reported	not reported	assuming no, routine inspection	not reported	not reported
2142171	2/22/13	Routine/Complete Inspection	031-25484	Violation(s) Noted	661436	78.86 - Failure to report defective, insufficient, or improperly cemented casing w/in 24 hrs or submit plan to correct w/in 30 days									

2143122	2/25/13	Routine/Complete Inspection	083-54596	Violation(s) Noted	661726	203TAG - Failure to affix, in a permanent manner, a registration number on a well within 60 days of registration									
2143122	2/25/13	Routine/Complete Inspection	083-54596	Violation(s) Noted	661723	210UNPLUG - Failure to plug a well upon abandonment									
2143122	2/25/13	Routine/Complete Inspection	083-54596	Violation(s) Noted	661724	78.57 - Failure to post pit approval number									
2143355	2/26/13	Incident-Response to Accident or Event	115-21069	Viol(s) Noted & Immediately Corrected	661800	691.1 - Clean Streams Law-General. Used only when a specific CLS code cannot be used	y	diesel	not reported	not reported	not reported	not reported	no	not reported	not reported
2143355	2/26/13	Incident-Response to Accident or Event	115-21069	Viol(s) Noted & Immediately Corrected	661801	78.56(1) - Pit and tanks not constructed with sufficient capacity to contain pollutional substances.	y	diesel	not reported	not reported	not reported	not reported	no	not reported	not reported
2143355	2/26/13	Incident-Response to Accident or Event	115-21069	Viol(s) Noted & Immediately Corrected	662005	91.33A - Failure to notify DEP of pollution incident. No phone call made forthwith	y	diesel	not reported	not reported	not reported	not reported	no	not reported	not reported
2143355	2/26/13	Incident-Response to Accident or Event	115-21069	Viol(s) Noted & Immediately Corrected	661803	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	diesel	not reported	not reported	not reported	not reported	no	not reported	not reported
2144029	2/27/13	Routine/Complete Inspection	115-20810	Violation(s) Noted	661944	78.65(2) - Failure to restore site within 30 days of permit expiration when well not drilled									
2144131	2/11/13	Routine/Complete Inspection	005-30203	Viol(s) Noted & Immediately Corrected	661982	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.									
2144758	2/25/13	Routine/Complete Inspection	083-54597	Violation(s) Noted	662056	203TAG - Failure to affix, in a permanent manner, a registration number on a well within 60 days of registration									
2144758	2/25/13	Routine/Complete Inspection	083-54597	Violation(s) Noted	662054	210UNPLUG - Failure to plug a well upon abandonment									
2144758	2/25/13	Routine/Complete Inspection	083-54597	Violation(s) Noted	662055	78.57 - Failure to post pit approval number									
2144787	2/25/13	Routine/Complete Inspection	083-54599	Violation(s) Noted	662060	203TAG - Failure to affix, in a permanent manner, a registration number on a well within 60 days of registration									
2144787	2/25/13	Routine/Complete Inspection	083-54599	Violation(s) Noted	662058	210UNPLUG - Failure to plug a well upon abandonment									
2144787	2/25/13	Routine/Complete Inspection	083-54599	Violation(s) Noted	662059	78.57 - Failure to post pit approval number									

2144960	2/25/13	Routine/Complete Inspection	083-54598	Violation(s) Noted	662084	203TAG - Failure to affix, in a permanent manner, a registration number on a well within 60 days of registration											
2144960	2/25/13	Routine/Complete Inspection	083-54598	Violation(s) Noted	662082	210UNPLUG - Failure to plug a well upon abandonment											
2144960	2/25/13	Routine/Complete Inspection	083-54598	Violation(s) Noted	662083	78.57 - Failure to post pit approval number											
2145309	2/28/13	Routine/Complete Inspection	059-25309	Violation(s) Noted	665004	201G - Failure to post permit number, operator name, address, telephone number in a conspicuous manner at the site during drilling											
2145309	2/28/13	Routine/Complete Inspection	059-25309	Violation(s) Noted	662188	201H - Failure to properly install the permit number, issued by the department, on a completed well.											
2145309	2/28/13	Routine/Complete Inspection	059-25309	Violation(s) Noted	662190	78.53 - Failure to implement and maintain BMPs in accordance with Chapter 102.											
2145365	2/28/13	Routine/Complete Inspection	059-25305	Violation(s) Noted	662202	201H - Failure to properly install the permit number, issued by the department, on a completed well.											
2145518	3/4/13	Routine/Partial Inspection	081-20832	Viol(s) Noted & Immediately Corrected	662238	78.54 - Failure to properly control or dispose of industrial or residual waste to prevent pollution of the waters of the Commonwealth.	y	not reported	not reported	well pad	not reported	not reported	assuming no, routine inspection	Tear in liner; wash water to the pad	not reported		
2145518	3/4/13	Routine/Partial Inspection	081-20832	Viol(s) Noted & Immediately Corrected	662237	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	not reported	not reported	well pad	not reported	not reported	assuming no, routine inspection	Tear in liner; wash water to the pad	not reported		
2146380	3/8/13	Routine/Complete Inspection	065-26907	Violation(s) Noted	662469	206REST - Failure to restore site w/in 9 months of completion of drilling or plugging											
2146397	3/7/13	Routine/Complete Inspection	065-26988	Violation(s) Noted	662475	78.65(2) - Failure to restore site within 30 days of permit expiration when well not drilled											
2146410	3/6/13	Routine/Complete Inspection	065-26907	Violation(s) Noted	662477	210UNPLUG - Failure to plug a well upon abandonment											
2146412	3/6/13	Routine/Complete Inspection	065-26909	Violation(s) Noted	662478	210UNPLUG - Failure to plug a well upon abandonment											
2146414	3/6/13	Routine/Complete Inspection	065-26911	Violation(s) Noted	662479	210UNPLUG - Failure to plug a well upon abandonment											
2146415	3/6/13	Routine/Complete Inspection	065-26908	Violation(s) Noted	662481	210UNPLUG - Failure to plug a well upon abandonment											
2146423	3/6/13	Routine/Complete Inspection	065-26922	Violation(s) Noted	662487	210UNPLUG - Failure to plug a well upon abandonment											

2146424	3/6/13	Routine/Complete Inspection	065-26921	Violation(s) Noted	662488	210UNPLUG - Failure to plug a well upon abandonment									
2146425	3/6/13	Routine/Complete Inspection	065-26920	Violation(s) Noted	662489	210UNPLUG - Failure to plug a well upon abandonment									
2146426	3/6/13	Routine/Complete Inspection	065-26919	Violation(s) Noted	662490	210UNPLUG - Failure to plug a well upon abandonment									
2146652	2/12/13	Incident-Response to Accident or Event	125-24720	Violation(s) Noted	662541	78.54 - Failure to properly control or dispose of industrial or residual waste to prevent pollution of the waters of the Commonwealth.	y	not reported	not reported	not reported	not reported	not reported	assuming yes, due to lack of violation	not reported	not reported
2146662	2/13/13	Incident-Response to Accident or Event	125-24597	Violation(s) Noted	662542	78.54 - Failure to properly control or dispose of industrial or residual waste to prevent pollution of the waters of the Commonwealth.	y	not reported	not reported	not reported	not reported	not reported	assuming yes, due to lack of violation	not reported	not reported
2147394	3/13/13	Administrative/File Review	047-24545	Violation(s) Noted	662690	78.83COALCSG - Improper coal protective casing and cementing procedures									
2147408	3/13/13	Administrative/File Review	047-24546	Violation(s) Noted	662704	78.83COALCSG - Improper coal protective casing and cementing procedures									
2147414	3/13/13	Administrative/File Review	047-24547	Violation(s) Noted	662705	78.83COALCSG - Improper coal protective casing and cementing procedures									
2147421	3/13/13	Administrative/File Review	047-24548	Violation(s) Noted	662707	78.83COALCSG - Improper coal protective casing and cementing procedures									
2147522	3/13/13	Incident-Response to Accident or Event	015-22378	Violation(s) Noted	662747	402CSL - Failure to adopt pollution prevention measures required or prescribed by DEP by handling materials that create a danger of pollution.	y	drilling mud	not reported	not reported	not reported	not reported	assuming yes, due to lack of violation	Release of Drilling Mud from well cellar.	not reported
2147552	3/13/13	Administrative/File Review	019-21680	Violation(s) Noted	662748	210UNPLUG - Failure to plug a well upon abandonment									
2148095	3/13/13	Drilling/Alteration	115-21125	Violation(s) Noted	662870	78.54 - Failure to properly control or dispose of industrial or residual waste to prevent pollution of the waters of the Commonwealth.	y	lubricant	not reported	containment	not reported	not reported	no	not reported	not reported
2148280	3/14/13	Routine/Complete Inspection	081-20553	Violation(s) Noted	662908	402CSL - Failure to adopt pollution prevention measures required or prescribed by DEP by handling materials that create a danger of pollution.	y	brine	not reported	well pad	not reported	not reported	assuming no, routine inspection	not reported	not reported
2148280	3/14/13	Routine/Complete Inspection	081-20553	Violation(s) Noted	662909	78.56(1) - Pit and tanks not constructed with sufficient capacity to contain polluttional substances.	y	brine	not reported	well pad	not reported	not reported	assuming no, routine inspection	not reported	not reported

2148280	3/14/13	Routine/Complete Inspection	081-20553	Violation(s) Noted	662910	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	brine	not reported	well pad	not reported	not reported	assuming no, routine inspection	not reported	not reported
2148818	2/21/13	Incident-Response to Accident or Event	125-24696	Violation(s) Noted	663098	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	produced water (re-use water)	not reported	well pad	20 bbls	not reported	assuming yes, due to lack of violation	not reported	not reported
2148863	3/18/13	Incident-Response to Accident or Event	115-20635	Viol(s) Noted & Immediately Corrected	663106	691.1 - Clean Streams Law-General. Used only when a specific CLS code cannot be used	y	production fluid	not reported	from the wells	42 gallons	not reported	assuming yes, due to lack of violation	One of the GPUs was malfunctioning, so the well tender locked it out. It was determined that the well tender forgot to lock out the dump line, so fluid was still flowing through the dump lines which are connected prior to dumping to the production tanks. The production fluid began to back flow to the locked out GPU releasing the production fluid to the surface of the ground on the well pad.	not reported
2148863	3/18/13	Incident-Response to Accident or Event	115-20635	Viol(s) Noted & Immediately Corrected	663107	78.57 - Failure to post pit approval number	y	production fluid	not reported	from the wells	42 gallons	not reported	assuming yes, due to lack of violation	One of the GPUs was malfunctioning, so the well tender locked it out. It was determined that the well tender forgot to lock out the dump line, so fluid was still flowing through the dump lines which are connected prior to dumping to the production tanks. The production fluid began to back flow to the locked out GPU releasing the production fluid to the surface of the ground on the well pad.	not reported
2148863	3/18/13	Incident-Response to Accident or Event	115-20635	Viol(s) Noted & Immediately Corrected	663108	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	production fluid	not reported	from the wells	42 gallons	not reported	assuming yes, due to lack of violation	One of the GPUs was malfunctioning, so the well tender locked it out. It was determined that the well tender forgot to lock out the dump line, so fluid was still flowing through the dump lines which are connected prior to dumping to the production tanks. The production fluid began to back flow to the locked out GPU releasing the production fluid to the surface of the ground on the well pad.	not reported

2150281	3/13/13	Incident-Response to Accident or Event	131-20191	Violation(s) Noted	663422	401 CSL - Discharge of pollutional material to waters of Commonwealth.	y	not reported	y, but unclear	waters of the commonwealth	not reported	not reported	assuming yes, due to lack of violation	not reported	not reported
2150281	3/13/13	Incident-Response to Accident or Event	131-20191	Violation(s) Noted	663424	78.56(1) - Pit and tanks not constructed with sufficient capacity to contain pollutional substances.	y	not reported	y, but unclear	waters of the commonwealth	not reported	not reported	assuming yes, due to lack of violation	not reported	not reported
2150281	3/13/13	Incident-Response to Accident or Event	131-20191	Violation(s) Noted	663421	78.73A - Operator shall prevent gas and other fluids from lower formations from entering fresh groundwater.	y	not reported	y, but unclear	waters of the commonwealth	not reported	not reported	assuming yes, due to lack of violation	not reported	not reported
2150281	3/13/13	Incident-Response to Accident or Event	131-20191	Violation(s) Noted	663423	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	not reported	y, but unclear	waters of the commonwealth	not reported	not reported	assuming yes, due to lack of violation	not reported	not reported
2150604	3/12/13	Routine/Complete Inspection	005-30973	Violation(s) Noted	663499	201E - Failure to comply with terms and conditions of permit									
2150604	3/12/13	Routine/Complete Inspection	005-30973	Violation(s) Noted	663500	78.12 - Oil or gas well drilled, altered or operated not in accordance with a permit or the regulations.									
2151034	3/15/13	Routine/Complete Inspection	059-25679	Violation(s) & Recurring Violations	663612	102.22 - Failure to achieve permanent stabilization of earth disturbance activity.									
2151034	3/15/13	Routine/Complete Inspection	059-25679	Violation(s) & Recurring Violations	663610	102.4 - Failure to minimize accelerated erosion, implement E&S plan, maintain E&S controls. Failure to stabilize site until total site restoration under OGA Sec 206(c)(d)									
2151241	3/20/13	Administrative/File Review	083-55327	Violation(s) Noted	663655	210UNPLUG - Failure to plug a well upon abandonment									
2151253	3/20/13	Administrative/File Review	083-53843	Violation(s) Noted	663656	210UNPLUG - Failure to plug a well upon abandonment									
2151467	3/28/13	Administrative/File Review	121-44946	Violation(s) Noted	663788	212WELLRCD - Failure to submit well record within 30 days of completion of drilling									
2151486	3/26/13	Routine/Complete Inspection	081-20763	Violation(s) Noted	664202	402CSL - Failure to adopt pollution prevention measures required or prescribed by DEP by handling materials that create a danger of pollution.									
2151486	3/26/13	Routine/Complete Inspection	081-20763	Violation(s) Noted	664203	78.54 - Failure to properly control or dispose of industrial or residual waste to prevent pollution of the waters of the Commonwealth.									

2151486	3/26/13	Routine/Complete Inspection	081-20763	Violation(s) Noted	664204	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.									
2152362	3/11/13	Incident-Response to Accident or Event	019-22006	Violation(s) Noted	663942	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y, but unclear	not reported	not reported	not reported	not reported	not reported	assuming yes, due to lack of violation	not reported	not reported
2152362	3/11/13	Incident-Response to Accident or Event	019-22006	Violation(s) Noted	663942	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y, but unclear	not reported	not reported	not reported	not reported	not reported	assuming yes, due to lack of violation	not reported	not reported
2152986	3/28/13	Follow-up Inspection	059-26036	Violation(s) Noted	664101	102.22 - Failure to achieve permanent stabilization of earth disturbance activity.									
2152986	3/28/13	Follow-up Inspection	059-26036	Violation(s) Noted	664102	102.4 - Failure to minimize accelerated erosion, implement E&S plan, maintain E&S controls. Failure to stabilize site until total site restoration under OGA Sec 206(c)(d)									
2153440	4/2/13	Routine/Partial Inspection	015-22296	Violation(s) Noted	664238	102.4 - Failure to minimize accelerated erosion, implement E&S plan, maintain E&S controls. Failure to stabilize site until total site restoration under OGA Sec 206(c)(d)									
2153440	4/2/13	Routine/Partial Inspection	015-22296	Violation(s) Noted	664239	102.4INADPLN - E&S Plan not adequate									
2153922	3/26/13	Routine/Partial Inspection	117-21197	Violation(s) Noted	664359	102.4NOPLAN - No E&S plan developed, plan not on site									
2153922	3/26/13	Routine/Partial Inspection	117-21197	Violation(s) Noted	664360	201A - Failure to have permit on site during drilling									
2153922	3/26/13	Routine/Partial Inspection	117-21197	Violation(s) Noted	664358	201G - Failure to post permit number, operator name, address, telephone number in a conspicuous manner at the site during drilling									
2153922	3/26/13	Routine/Partial Inspection	117-21197	Violation(s) Noted	664357	206C - Failure to restore well site within nine months after completion of drilling, failure to remove all pits, drilling supplies and equipment not needed for production.									

2154870	3/28/13	Routine/Partial Inspection	081-20763	Violation(s) Noted	664711	201E - Failure to comply with terms and conditions of permit	y	brine	not reported	well pad	not reported	not reported	assuming no, routine inspection	Pit and tanks not constructed with sufficient capacity to contain pollutional substances.- Failure to adopt pollution prevention measures required or prescribed by DEP by handling materials that create a danger of pollution.	not reported
2154870	3/28/13	Routine/Partial Inspection	081-20763	Violation(s) Noted	664708	402CSL - Failure to adopt pollution prevention measures required or prescribed by DEP by handling materials that create a danger of pollution.	y	brine	not reported	well pad	not reported	not reported	assuming no, routine inspection	Pit and tanks not constructed with sufficient capacity to contain pollutional substances.- Failure to adopt pollution prevention measures required or prescribed by DEP by handling materials that create a danger of pollution.	not reported
2154870	3/28/13	Routine/Partial Inspection	081-20763	Violation(s) Noted	664709	78.56(1) - Pit and tanks not constructed with sufficient capacity to contain pollutional substances.	y	brine	not reported	well pad	not reported	not reported	assuming no, routine inspection	Pit and tanks not constructed with sufficient capacity to contain pollutional substances.- Failure to adopt pollution prevention measures required or prescribed by DEP by handling materials that create a danger of pollution.	not reported
2154870	3/28/13	Routine/Partial Inspection	081-20763	Violation(s) Noted	664710	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	brine	not reported	well pad	not reported	not reported	assuming no, routine inspection	Pit and tanks not constructed with sufficient capacity to contain pollutional substances.- Failure to adopt pollution prevention measures required or prescribed by DEP by handling materials that create a danger of pollution.	not reported
2154879	4/3/13	Routine/Partial Inspection	081-20754	Violation(s) Noted	664712	402CSL - Failure to adopt pollution prevention measures required or prescribed by DEP by handling materials that create a danger of pollution.	y	diesel	not reported	well pad	not reported	not reported	assuming no, routine inspection	Diesel spill on the pad reported by Range.	not reported
2154879	4/3/13	Routine/Partial Inspection	081-20754	Violation(s) Noted	664713	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	diesel	not reported	well pad	not reported	not reported	assuming no, routine inspection	Diesel spill on the pad reported by Range.	not reported
2155929	4/10/13	Administrative/File Review	115-20149	Violation(s) Noted	665016	691.1 - Clean Streams Law-General. Used only when a specific CLS code cannot be used	y	ferric sulfate	not reported	on and off the containment	200 gallons of ferric sulfate	9' x 12' area	assuming no, routine inspection	A fork truck punctured a tote containment breach	not reported
2155929	4/10/13	Administrative/File Review	115-20149	Violation(s) Noted	665017	91.34A - Failure to take all necessary measures to prevent spill. Inadequate diking, potential pollution	y	ferric sulfate	not reported	on and off the containment	200 gallons of ferric sulfate	9' x 12' area	assuming no, routine inspection	A fork truck punctured a tote containment breach	not reported

2155929	4/10/13	Administrative/Fil e Review	115-20149	Violation(s) Noted	665018	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	ferric sulfate	not reported	on and off the containment	200 gallons of ferric sulfate	9' x 12' area	assuming no, routine inspection	A fork truck punctured a tote containment breach	not reported
2155943	4/10/13	Incident- Response to Accident or Event	015-22049	Violation(s) Noted	669173	402CSL - Failure to adopt pollution prevention measures required or prescribed by DEP by handling materials that create a danger of pollution.	y	brine	not reported	not reported	not reported	not reported	assuming yes, due to lack of violation	not reported	not reported
2155943	4/10/13	Incident- Response to Accident or Event	015-22049	Violation(s) Noted	669171	78.54 - Failure to properly control or dispose of industrial or residual waste to prevent pollution of the waters of the Commonwealth.	y	brine	not reported	not reported	not reported	not reported	assuming yes, due to lack of violation	not reported	not reported
2155943	4/10/13	Incident- Response to Accident or Event	015-22049	Violation(s) Noted	669172	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	brine	not reported	not reported	not reported	not reported	assuming yes, due to lack of violation	not reported	not reported
2157094	4/10/13	Routine/Complete Inspection	081-20371	Violation(s) Noted	665598	78.86 - Failure to report defective, insufficient, or improperly cemented casing w/in 24 hrs or submit plan to correct w/in 30 days									
2157183	4/15/13	Incident- Response to Accident or Event	005-28706	Violation(s) Noted	665634	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y, but unclear	not reported	not reported	not reported	not reported	not reported	assuming yes, due to lack of violation	not reported	not reported
2159854	4/17/13	Routine/Complete Inspection	015-22131	Violation(s) Noted	666074	78.65(2) - Failure to restore site within 30 days of permit expiration when well not drilled									
2159971	4/18/13	Routine/Complete Inspection	015-21986	Violation(s) Noted	666139	402CSL - Failure to adopt pollution prevention measures required or prescribed by DEP by handling materials that create a danger of pollution.	y	not reported	y, but unclear	near wells	not reported	not reported	no	not reported	not reported
2159971	4/18/13	Routine/Complete Inspection	015-21986	Violation(s) Noted	666139	402CSL - Failure to adopt pollution prevention measures required or prescribed by DEP by handling materials that create a danger of pollution.	y	not reported	y, but unclear	near wells	not reported	not reported	no	not reported	not reported
2159971	4/18/13	Routine/Complete Inspection	015-21986	Violation(s) Noted	666109	78.54 - Failure to properly control or dispose of industrial or residual waste to prevent pollution of the waters of the Commonwealth.	y	not reported	y, but unclear	near wells	not reported	not reported	no	not reported	not reported
2159971	4/18/13	Routine/Complete Inspection	015-21986	Violation(s) Noted	666109	78.54 - Failure to properly control or dispose of industrial or residual waste to prevent pollution of the waters of the Commonwealth.	y	not reported	y, but unclear	near wells	not reported	not reported	no	not reported	not reported

2159971	4/18/13	Routine/Complete Inspection	015-21986	Violation(s) Noted	666110	91.33A - Failure to notify DEP of pollution incident. No phone call made forthwith	y	not reported	y, but unclear	near wells	not reported	not reported	no	not reported	not reported
2159971	4/18/13	Routine/Complete Inspection	015-21986	Violation(s) Noted	666110	91.33A - Failure to notify DEP of pollution incident. No phone call made forthwith	y	not reported	y, but unclear	near wells	not reported	not reported	no	not reported	not reported
2159971	4/18/13	Routine/Complete Inspection	015-21986	Violation(s) Noted	666111	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	not reported	y, but unclear	near wells	not reported	not reported	no	not reported	not reported
2159971	4/18/13	Routine/Complete Inspection	015-21986	Violation(s) Noted	666111	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	not reported	y, but unclear	near wells	not reported	not reported	no	not reported	not reported
2160144	4/17/13	Follow-up Inspection	113-20174	Viol(s) Noted & Immediately Corrected	666155	78.54 - Failure to properly control or dispose of industrial or residual waste to prevent pollution of the waters of the Commonwealth.	y	synthetic drill mud	not reported	well pad	2 barrels	not reported	yes	not reported	not reported
2160824	4/23/13	Drilling/Alteration	047-24699	Violation(s) Noted	666343	201F - Failure to notify DEP, landowner, political subdivision, or coal owner 24 hrs prior to commencement of drilling									
2161083	4/23/13	Construction	019-22046	Viol(s) Noted & Immediately Corrected	666420	102.4NOPLAN - No E&S plan developed, plan not on site									
2161083	4/23/13	Construction	019-22046	Viol(s) Noted & Immediately Corrected	666419	201G - Failure to post permit number, operator name, address, telephone number in a conspicuous manner at the site during drilling									
2161346	4/19/13	Incident-Response to Accident or Event	019-21928	Violation(s) Noted	666529	78.57 - Failure to post pit approval number	y, but unclear	not reported	not reported	not reported	not reported	not reported	assuming yes, due to lack of violation	not reported	not reported
2161346	4/19/13	Incident-Response to Accident or Event	019-21928	Violation(s) Noted	666530	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y, but unclear	not reported	not reported	not reported	not reported	not reported	assuming yes, due to lack of violation	not reported	not reported
2161757	4/22/13	Drilling/Alteration	073-20384	Viol(s) Noted & Immediately Corrected	666627	201G - Failure to post permit number, operator name, address, telephone number in a conspicuous manner at the site during drilling									
2162665	4/30/13	Incident-Response to Accident or Event	131-20183	Violation(s) Noted	666899	401 CSL - Discharge of pollutional material to waters of Commonwealth.	y	recycled fluid	not reported	waters of the commonwealth	270 bbls	not reported	assuming yes, due to lack of violation	Accident during transfer operation	not reported

2162665	4/30/13	Incident-Response to Accident or Event	131-20183	Violation(s) Noted	666899	401 CSL - Discharge of polluttional material to waters of Commonwealth.	y	recycled fluid	not reported	waters of the commonwealth	270 bbls	not reported	assuming yes, due to lack of violation	Accident during transfer operation	not reported
2162665	4/30/13	Incident-Response to Accident or Event	131-20183	Violation(s) Noted	666900	78.56(1) - Pit and tanks not constructed with sufficient capacity to contain polluttional substances.	y	recycled fluid	not reported	waters of the commonwealth	270 bbls	not reported	assuming yes, due to lack of violation	Accident during transfer operation	not reported
2162665	4/30/13	Incident-Response to Accident or Event	131-20183	Violation(s) Noted	666900	78.56(1) - Pit and tanks not constructed with sufficient capacity to contain polluttional substances.	y	recycled fluid	not reported	waters of the commonwealth	270 bbls	not reported	assuming yes, due to lack of violation	Accident during transfer operation	not reported
2162665	4/30/13	Incident-Response to Accident or Event	131-20183	Violation(s) Noted	666902	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	recycled fluid	not reported	waters of the commonwealth	270 bbls	not reported	assuming yes, due to lack of violation	Accident during transfer operation	not reported
2162665	4/30/13	Incident-Response to Accident or Event	131-20183	Violation(s) Noted	666902	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	recycled fluid	not reported	waters of the commonwealth	270 bbls	not reported	assuming yes, due to lack of violation	Accident during transfer operation	not reported
2163073	4/30/13	Complaint Inspection	073-20378	Violation(s) Noted	667038	51017 - Administrative Code-General									
2163104	3/29/13	Incident-Response to Accident or Event	125-24696	Outstanding Violations - Viols Req'd	667041	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	diesel	not reported	well pad	75 gallons	not reported	assuming yes, due to lack of violation	Tank tipped off and fuel was released through the 2" vent opening on top of tank. diesel fuel release to the ground from tank being moved across pad via forklift.	not reported
2163169	3/11/13	Routine/Complete Inspection	115-21058	Violation(s) Noted	667065	402CSL - Failure to adopt pollution prevention measures required or prescribed by DEP by handling materials that create a danger of pollution.									
2163169	3/11/13	Routine/Complete Inspection	115-21058	Violation(s) Noted	667066	78.56(1) - Pit and tanks not constructed with sufficient capacity to contain polluttional substances.									
2163169	3/11/13	Routine/Complete Inspection	115-21058	Violation(s) Noted	667067	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.									
2163708	5/1/13	Routine/Partial Inspection	117-20640	Violation(s) Noted	667207	102.22 - Failure to achieve permanent stabilization of earth disturbance activity.									
2163708	5/1/13	Routine/Partial Inspection	117-20640	Violation(s) Noted	667208	102.4 - Failure to minimize accelerated erosion, implement E&S plan, maintain E&S controls. Failure to stabilize site until total site restoration under OGA Sec 206(c)(d)									

2163708	5/1/13	Routine/Partial Inspection	117-20640	Violation(s) Noted	667209	206C - Failure to restore well site within nine months after completion of drilling, failure to remove all pits, drilling supplies and equipment not needed for production.									
2165209	5/7/13	Routine/Complete Inspection	015-22268	Violation(s) Noted	667519	201TAG - Failure to install, in a permanent manner, the permit number on a completed well									
2166267	5/15/13	Drilling/Alteration	015-22547	Violation(s) Noted	667784	78.86 - Failure to report defective, insufficient, or improperly cemented casing w/in 24 hrs or submit plan to correct w/in 30 days									
2166536	5/14/13	Drilling/Alteration	019-22046	Violation(s) Noted	667833	201G - Failure to post permit number, operator name, address, telephone number in a conspicuous manner at the site during drilling									
2166646	4/30/13	Routine/Complete Inspection	081-21114	Violation(s) Noted	667863	287.54A - Person or municipality has not performed waste analysis or no copy submitted to the Department.	y	drilling fluid	not reported	into a landfill - caught dumping	not reported	not reported	no	Southwestern was disposing of a fluid that was transported by tanker truck to Keystone Sanitary Landfill and disposed of as an 810 (drill cuttings) waste. The waste was actually 803 (drilling fluid). The Form U for disposal stated that the waste was a solid and used the 810 waste code.	not reported
2166646	4/30/13	Routine/Complete Inspection	081-21114	Violation(s) Noted	667860	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	drilling fluid	not reported	into a landfill - caught dumping	not reported	not reported	no	Southwestern was disposing of a fluid that was transported by tanker truck to Keystone Sanitary Landfill and disposed of as an 810 (drill cuttings) waste. The waste was actually 803 (drilling fluid). The Form U for disposal stated that the waste was a solid and used the 810 waste code.	not reported
2166811	5/16/13	Incident-Response to Accident or Event	039-25764	Violation(s) Noted	667999	301CSL - Stream discharge of IW, includes drill cuttings, oil, brine and/or silt	y	drill cuttings, oil, brine and or silt	y	into a stream	not reported	not reported	no	Stream discharge of IW, includes drill cuttings, oil, brine and/or silt	not reported
2167854	5/7/13	Incident-Response to Accident or Event	081-20948	Viol(s) Noted & Immediately Corrected	668365	78.54 - Failure to properly control or dispose of industrial or residual waste to prevent pollution of the waters of the Commonwealth.	y	produced water	not reported	not reported	20 - 30 gallons	not reported	assuming yes, due to lack of violation	Pipe inadvertently disconnected	not reported

2168510	5/22/13	Site Restoration	051-24489	Violation(s) Noted	668577	206C - Failure to restore well site within nine months after completion of drilling, failure to remove all pits, drilling supplies and equipment not needed for production.									
2168872	5/22/13	Routine/Partial Inspection	015-22404	Violation(s) Noted	668724	102.22 - Failure to achieve permanent stabilization of earth disturbance activity.									
2168872	5/22/13	Routine/Partial Inspection	015-22404	Violation(s) Noted	668723	102.4 - Failure to minimize accelerated erosion, implement E&S plan, maintain E&S controls. Failure to stabilize site until total site restoration under OGA Sec 206(c)(d)									
2168872	5/22/13	Routine/Partial Inspection	015-22404	Violation(s) Noted	668725	102.4 - Failure to minimize accelerated erosion, implement E&S plan, maintain E&S controls. Failure to stabilize site until total site restoration under OGA Sec 206(c)(d)									
2169095	5/21/13	Follow-up Inspection	059-25679	Violation(s) & Outstanding Violations	668785	78.56FRBRD - Failure to maintain 2' freeboard in an impoundment									
2172146	4/15/13	Administrative/Fil e Review	129-28662	Viol(s) Noted & Immediately Corrected	669687	212WELLRCD - Failure to submit well record within 30 days of completion of drilling									
2172265	6/3/13	Incident-Response to Accident or Event	019-21481	Violation(s) Noted	669720	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y, but unclear	not reported	not reported	not reported	not reported	not reported	assuming yes, due to lack of violation	not reported	not reported
2172266	6/3/13	Incident-Response to Accident or Event	019-21987	Violation(s) Noted	669721	307CSL - Discharge of industrial waste to waters of Commonwealth without a permit.	y	industrial waste	y	streams of the commonwealth	not reported	not reported	assuming no	Discharge of industrial waste to waters of Commonwealth without a permit.	not reported
2172266	6/3/13	Incident-Response to Accident or Event	019-21987	Violation(s) Noted	669723	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	industrial waste	y	streams of the commonwealth	not reported	not reported	assuming no	Discharge of industrial waste to waters of Commonwealth without a permit.	not reported
2172301	6/5/13	Administrative/Fil e Review	115-21012	Violation(s) Noted	669729	691.1 - Clean Streams Law-General. Used only when a specific CLS code cannot be used	y	freshwater with gel and biocide and potentially a gel breaker.	not reported	on and off the containment, some was flushed onto an adjacent grassy area	180 bbl	not reported	assuming yes, due to lack of violation	A problem occurred with the discharge pump on the blender. Crews decided to use a bypass on the tub. A problem occurred with a valve that isolated the tub. A reported 180 bbl overflowed the blender tub.	not reported, inspection 17 days later

2172301	6/5/13	Administrative/File Review	115-21012	Violation(s) Noted	669730	78.56(1) - Pit and tanks not constructed with sufficient capacity to contain pollitional substances.	y	freshwater with gel and biocide and potentially a gel breaker.	not reported	on and off the containment, some was flushed onto an adjacent grassy area	180 bbl	not reported	assuming yes, due to lack of violation	A problem occurred with the discharge pump on the blender. Crews decided to use a bypass on the tub. A problem occurred with a valve that isolated the tub. A reported 180 bbl overflowed the blender tub.	not reported, inspection 17 days later
2172301	6/5/13	Administrative/File Review	115-21012	Violation(s) Noted	669731	91.34A - Failure to take all necessary measures to prevent spill. Inadequate diking, potential pollution	y	freshwater with gel and biocide and potentially a gel breaker.	not reported	on and off the containment, some was flushed onto an adjacent grassy area	180 bbl	not reported	assuming yes, due to lack of violation	A problem occurred with the discharge pump on the blender. Crews decided to use a bypass on the tub. A problem occurred with a valve that isolated the tub. A reported 180 bbl overflowed the blender tub.	not reported, inspection 17 days later
2172301	6/5/13	Administrative/File Review	115-21012	Violation(s) Noted	669732	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	freshwater with gel and biocide and potentially a gel breaker.	not reported	on and off the containment, some was flushed onto an adjacent grassy area	180 bbl	not reported	assuming yes, due to lack of violation	A problem occurred with the discharge pump on the blender. Crews decided to use a bypass on the tub. A problem occurred with a valve that isolated the tub. A reported 180 bbl overflowed the blender tub.	not reported, inspection 17 days later
2172607	6/6/13	Administrative/File Review	125-24619	Violation(s) Noted	669808	78.66BRINE - Failure to report a reportable release of brine to DEP within 2 hours.	y	brine / reuse water	not reported	not reported	50 gallons	not reported	no	A driver spilled about 50 gallons of reuse water during unloading.	4.5 hours
2173367	6/10/13	Routine/Complete Inspection	031-25448	Violation(s) Noted	669921	210UNPLUG - Failure to plug a well upon abandonment									
2173369	6/10/13	Routine/Complete Inspection	031-25449	Violation(s) Noted	669922	210UNPLUG - Failure to plug a well upon abandonment									
2173370	6/10/13	Routine/Complete Inspection	031-25450	Violation(s) Noted	669923	210UNPLUG - Failure to plug a well upon abandonment									
2173371	6/10/13	Routine/Partial Inspection	031-25516	Violation(s) Noted	669924	210UNPLUG - Failure to plug a well upon abandonment									
2173660	6/4/13	Incident-Response to Accident or Event	085-24632	Violation(s) Noted	669970	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y, but unclear	not reported	not reported	not reported	not reported	not reported	assuming yes, due to lack of violation	not reported	not reported
2174019	6/6/13	Incident-Response to Accident or Event	115-20495	Violation(s) Noted	670043	91.34A - Failure to take all necessary measures to prevent spill. Inadequate diking, potential pollution	y	fracturing fluid	not reported	well pad	5 barrels	not reported	yes	Wash out had occurred and that the stimulation fluid had sprayed onto an unlined section of the pad located between the stimulation operation containment and the production equipment.	not reported, 10 days until inspection

2174019	6/6/13	Incident-Response to Accident or Event	115-20495	Violation(s) Noted	670044	91.34A - Failure to take all necessary measures to prevent spill. Inadequate diking, potential pollution	y	fracturing fluid	not reported	well pad	5 barrels	not reported	yes	Wash out had occurred and that the stimulation fluid had sprayed onto an unlined section of the pad located between the stimulation operation containment and the production equipment.	not reported, 10 days until inspection
2174019	6/6/13	Incident-Response to Accident or Event	115-20495	Violation(s) Noted	670042	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	fracturing fluid	not reported	well pad	5 barrels	not reported	yes	Wash out had occurred and that the stimulation fluid had sprayed onto an unlined section of the pad located between the stimulation operation containment and the production equipment.	not reported, 10 days until inspection
2174928	6/13/13	Routine/Complete Inspection	033-27136	Viol(s) Noted & Immediately Corrected	670453	402CSL - Failure to adopt pollution prevention measures required or prescribed by DEP by handling materials that create a danger of pollution.									
2175166	6/10/13	Incident-Response to Accident or Event	059-25741	Violation(s) Noted	670519	78.54 - Failure to properly control or dispose of industrial or residual waste to prevent pollution of the waters of the Commonwealth.	y	not reported	not reported	not reported	not reported	not reported	no	not reported	not reported
2175166	6/10/13	Incident-Response to Accident or Event	059-25741	Violation(s) Noted	670518	78.66A - Failure to report release of substance threatening or causing pollution	y	not reported	not reported	not reported	not reported	not reported	no	not reported	not reported
2175455	6/10/13	Incident-Response to Accident or Event	125-24896	Violation(s) Noted	670570	78.54 - Failure to properly control or dispose of industrial or residual waste to prevent pollution of the waters of the Commonwealth.	y, but unclear	not reported	y, but unclear	not reported	not reported	not reported	assuming yes, due to lack of violation	not reported	not reported
2175559	6/3/13	Incident-Response to Accident or Event	115-20201	Violation(s) Noted	670614	691.1 - Clean Streams Law-General. Used only when a specific CLS code cannot be used	y	fluid	not reported	unclear	12 bbl.	30'X30'X5.5" deep; totaling 15.25 yard	assuming yes, due to lack of violation	not reported	not reported
2175559	6/3/13	Incident-Response to Accident or Event	115-20201	Violation(s) Noted	670616	78.57 - Failure to post pit approval number	y	fluid	not reported	unclear	12 bbl.	30'X30'X5.5" deep; totaling 15.25 yard	assuming yes, due to lack of violation	not reported	not reported
2175559	6/3/13	Incident-Response to Accident or Event	115-20201	Violation(s) Noted	670615	91.34A - Failure to take all necessary measures to prevent spill. Inadequate diking, potential pollution	y	fluid	not reported	unclear	12 bbl.	30'X30'X5.5" deep; totaling 15.25 yard	assuming yes, due to lack of violation	not reported	not reported
2175559	6/3/13	Incident-Response to Accident or Event	115-20201	Violation(s) Noted	670617	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	fluid	not reported	unclear	12 bbl.	30'X30'X5.5" deep; totaling 15.25 yard	assuming yes, due to lack of violation	not reported	not reported

2175766	5/14/13	Drilling/Alteration	019-22050	Violation(s) Noted	670711	201G - Failure to post permit number, operator name, address, telephone number in a conspicuous manner at the site during drilling									
2176370	6/19/13	Administrative/File Review	019-21866	Violation(s) Noted	670995	210UNPLUG - Failure to plug a well upon abandonment									
2176370	6/19/13	Administrative/File Review	019-21866	Violation(s) Noted	670995	210UNPLUG - Failure to plug a well upon abandonment									
2176390	6/19/13	Administrative/File Review	019-21865	Violation(s) Noted	670998	210UNPLUG - Failure to plug a well upon abandonment									
2176390	6/19/13	Administrative/File Review	019-21865	Violation(s) Noted	670998	210UNPLUG - Failure to plug a well upon abandonment									
2177291	6/10/13	Drilling/Alteration	073-20348	Violation(s) Noted	671250	201F - Failure to notify DEP, landowner, political subdivision, or coal owner 24 hrs prior to commencement of drilling									
2177440	6/12/13	Routine/Complete Inspection	115-20157	Violation(s) Noted	671298	102.4NOPLAN - No E&S plan developed, plan not on site									
2177440	6/12/13	Routine/Complete Inspection	115-20157	Violation(s) Noted	671299	91.33A - Failure to notify DEP of pollution incident. No phone call made forthwith									
2177508	6/24/13	Routine/Complete Inspection	033-27207	Viol(s) Noted & Immediately Corrected	671320	401 CSL - Discharge of pollutional material to waters of Commonwealth.	y	pollutional substances	y	waters of the commonwealth	not reported	not reported	assuming no, routine inspection	Dumping water in the commonwealth	not reported
2178128	6/26/13	Routine/Complete Inspection	031-25448	Violation(s) Noted	671489	206C - Failure to restore well site within nine months after completion of drilling, failure to remove all pits, drilling supplies and equipment not needed for production.									
2178128	6/26/13	Routine/Complete Inspection	031-25448	Violation(s) Noted	679432	78.65(2) - Failure to restore site within 30 days of permit expiration when well not drilled									
2178509	6/25/13	Incident-Response to Accident or Event	131-20276	Viol(s) Noted & Immediately Corrected	671531	402CSL - Failure to adopt pollution prevention measures required or prescribed by DEP by handling materials that create a danger of pollution.	y	drilling mud	not reported	to containment, but there was a tear in the containment	10 bbl of synthetic based oil based drilling mud, 20 gallons escaped containment	not reported	assuming yes, due to lack of violation	Overflow of the mixing tank. A tear was noted in the containment and it was estimated that (20) gallons of the material impacted the surface of the ground.	7 hours

2178509	6/25/13	Incident-Response to Accident or Event	131-20276	Viol(s) Noted & Immediately Corrected	671533	78.54 - Failure to properly control or dispose of industrial or residual waste to prevent pollution of the waters of the Commonwealth.	y	drilling mud	not reported	to containment, but there was a tear in the containment	10 bbl of synthetic based oil based drilling mud, 20 gallons escaped containment	not reported	assuming yes, due to lack of violation	Overflow of the mixing tank. A tear was noted in the containment and it was estimated that (20) gallons of the material impacted the surface of the ground.	7 hours
2178509	6/25/13	Incident-Response to Accident or Event	131-20276	Viol(s) Noted & Immediately Corrected	671534	78.56(1) - Pit and tanks not constructed with sufficient capacity to contain pollitional substances.	y	drilling mud	not reported	to containment, but there was a tear in the containment	10 bbl of synthetic based oil based drilling mud, 20 gallons escaped containment	not reported	assuming yes, due to lack of violation	Overflow of the mixing tank. A tear was noted in the containment and it was estimated that (20) gallons of the material impacted the surface of the ground.	7 hours
2178509	6/25/13	Incident-Response to Accident or Event	131-20276	Viol(s) Noted & Immediately Corrected	671532	91.34A - Failure to take all necessary measures to prevent spill. Inadequate diking, potential pollution	y	drilling mud	not reported	to containment, but there was a tear in the containment	10 bbl of synthetic based oil based drilling mud, 20 gallons escaped containment	not reported	assuming yes, due to lack of violation	Overflow of the mixing tank. A tear was noted in the containment and it was estimated that (20) gallons of the material impacted the surface of the ground.	7 hours
2178509	6/25/13	Incident-Response to Accident or Event	131-20276	Viol(s) Noted & Immediately Corrected	671535	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	drilling mud	not reported	to containment, but there was a tear in the containment	10 bbl of synthetic based oil based drilling mud, 20 gallons escaped containment	not reported	assuming yes, due to lack of violation	Overflow of the mixing tank. A tear was noted in the containment and it was estimated that (20) gallons of the material impacted the surface of the ground.	7 hours
2178542	6/27/13	Administrative/Fil e Review	073-20370	Violation(s) Noted	671544	601.101 - O&G Act 223-General. Used only when a specific O&G Act code cannot be used									
2178544	6/27/13	Administrative/Fil e Review	073-20371	Violation(s) Noted	671545	601.101 - O&G Act 223-General. Used only when a specific O&G Act code cannot be used									
2178547	6/27/13	Administrative/Fil e Review	073-20369	Violation(s) Noted	671546	601.101 - O&G Act 223-General. Used only when a specific O&G Act code cannot be used									
2178548	6/27/13	Administrative/Fil e Review	073-20376	Violation(s) Noted	671547	601.101 - O&G Act 223-General. Used only when a specific O&G Act code cannot be used									

2178659	6/26/13	Routine/Complete Inspection	015-21751	Violation(s) Noted	671585	78.65(2) - Failure to restore site within 30 days of permit expiration when well not drilled									
2179804	6/20/13	Incident-Response to Accident or Event	115-20633	Violation(s) Noted	671876	401 CSL - Discharge of pollutional material to waters of Commonwealth.	y	production fluid	y	well pad and adjacent wetlands	not reported	not reported	assuming yes, due to lack of violation	not reported	not reported
2179804	6/20/13	Incident-Response to Accident or Event	115-20633	Violation(s) Noted	671875	78.57 - Failure to post pit approval number	y	production fluid	y	well pad and adjacent wetlands	not reported	not reported	assuming yes, due to lack of violation	not reported	not reported
2179804	6/20/13	Incident-Response to Accident or Event	115-20633	Violation(s) Noted	671877	91.34A - Failure to take all necessary measures to prevent spill. Inadequate diking, potential pollution	y	production fluid	y	well pad and adjacent wetlands	not reported	not reported	assuming yes, due to lack of violation	not reported	not reported
2179804	6/20/13	Incident-Response to Accident or Event	115-20633	Violation(s) Noted	671874	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	production fluid	y	well pad and adjacent wetlands	not reported	not reported	assuming yes, due to lack of violation	not reported	not reported
2180016	7/3/13	Administrative/Fil e Review	059-25883	Viol(s) Noted & Immediately Corrected	671911	212WELLRCD - Failure to submit well record within 30 days of completion of drilling									
2180061	6/18/13	Routine/Complete Inspection	015-21166	Violation(s) Noted	671920	78.81D2 - Failure to case and cement properly through storage reservoir or storage horizon									
2180070	6/19/13	Routine/Complete Inspection	015-21057	Violation(s) Noted	671923	78.81D2 - Failure to case and cement properly through storage reservoir or storage horizon									
2180078	6/18/13	Routine/Complete Inspection	015-21085	Violation(s) Noted	671924	78.81D2 - Failure to case and cement properly through storage reservoir or storage horizon									
2180369	7/1/13	Incident-Response to Accident or Event	117-21493	Violation(s) Noted	671961	402CSL - Failure to adopt pollution prevention measures required or prescribed by DEP by handling materials that create a danger of pollution.	y	flowback	not reported	ground	50 bbls	not reported	assuming yes, due to lack of violation	Est. 50 bbl of flowback released from 12" line during frac operation. Fluid migrated to sediment trap and beyond limit of disturbance. TLT	not reported
2180369	7/1/13	Incident-Response to Accident or Event	117-21493	Violation(s) Noted	671960	78.54 - Failure to properly control or dispose of industrial or residual waste to prevent pollution of the waters of the Commonwealth.	y	flowback	not reported	ground	50 bbls	not reported	assuming yes, due to lack of violation	Est. 50 bbl of flowback released from 12" line during frac operation. Fluid migrated to sediment trap and beyond limit of disturbance. TLT	not reported
2180369	7/1/13	Incident-Response to Accident or Event	117-21493	Violation(s) Noted	671962	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	flowback	not reported	ground	50 bbls	not reported	assuming yes, due to lack of violation	Est. 50 bbl of flowback released from 12" line during frac operation. Fluid migrated to sediment trap and beyond limit of disturbance. TLT	not reported

2181525	7/8/13	Routine/Complete Inspection	081-20562	Viol(s) Noted & Immediately Corrected	672203	78.54 - Failure to properly control or dispose of industrial or residual waste to prevent pollution of the waters of the Commonwealth.									
2181975	7/9/13	Incident-Response to Accident or Event	005-30973	Violation(s) Noted	672912	78.54 - Failure to properly control or dispose of industrial or residual waste to prevent pollution of the waters of the Commonwealth.	y	flowback	not reported	ground	30 - 40 gallons	not reported	assuming yes, due to lack of violation	not reported	not reported
2181975	7/9/13	Incident-Response to Accident or Event	005-30973	Violation(s) Noted	672913	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	flowback	not reported	ground	30 - 40 gallons	not reported	assuming yes, due to lack of violation	not reported	not reported
2183194	7/11/13	Routine/Complete Inspection	129-28841	Violation(s) Noted	672528	201H - Failure to properly install the permit number, issued by the department, on a completed well.	y	pollutional substances	y	waters of the commonwealth	not reported	not reported	no	Discharge of pollutional material to waters of Commonwealth.	not reported
2183194	7/11/13	Routine/Complete Inspection	129-28841	Violation(s) Noted	672526	401 CSL - Discharge of pollutional material to waters of Commonwealth.	y	pollutional substances	y	waters of the commonwealth	not reported	not reported	no	Discharge of pollutional material to waters of Commonwealth.	not reported
2183592	7/12/13	Routine/Complete Inspection	117-21529	Violation(s) Noted	672628	78.65(2) - Failure to restore site within 30 days of permit expiration when well not drilled									
2183703	7/16/13	Routine/Complete Inspection	033-27221	Viol(s) Noted & Immediately Corrected	672647	307CSL - Discharge of industrial waste to waters of Commonwealth without a permit.	y	pollutional substances	y	waters of the commonwealth	not reported	not reported	no	Discharge of pollutional material to waters of Commonwealth.	not reported
2183848	7/12/13	Routine/Partial Inspection	117-21466	Violation(s) Noted	672756	206REST - Failure to restore site w/in 9 months of completion of drilling or plugging									
2183996	7/17/13	Routine/Complete Inspection	033-26961	Viol(s) Noted & Immediately Corrected	672793	307CSL - Discharge of industrial waste to waters of Commonwealth without a permit.	y	pollutional substances	y	waters of the commonwealth	not reported	not reported	no	Discharge of pollutional material to waters of Commonwealth.	not reported
2184053	7/8/13	Routine/Complete Inspection	081-21080	Violation(s) Noted	672807	201E - Failure to comply with terms and conditions of permit	y	brine	not reported	not reported	not reported	not reported	assuming no, routine inspection	Brine/produced water spill. Sumps dug in the fill slope and are recovering spilled material. Violations cited at the 081-21080 well	not reported
2184053	7/8/13	Routine/Complete Inspection	081-21080	Violation(s) Noted	672808	402CSL - Failure to adopt pollution prevention measures required or prescribed by DEP by handling materials that create a danger of pollution.	y	brine	not reported	not reported	not reported	not reported	assuming no, routine inspection	Brine/produced water spill. Sumps dug in the fill slope and are recovering spilled material. Violations cited at the 081-21080 well	not reported

2184053	7/8/13	Routine/Complete Inspection	081-21080	Violation(s) Noted	672804	78.54 - Failure to properly control or dispose of industrial or residual waste to prevent pollution of the waters of the Commonwealth.	y	brine	not reported	not reported	not reported	not reported	assuming no, routine inspection	Brine/produced water spill. Sumps dug in the fill slope and are recovering spilled material. Violations cited at the 081-21080 well	not reported
2184053	7/8/13	Routine/Complete Inspection	081-21080	Violation(s) Noted	672805	78.57 - Failure to post pit approval number	y	brine	not reported	not reported	not reported	not reported	assuming no, routine inspection	Brine/produced water spill. Sumps dug in the fill slope and are recovering spilled material. Violations cited at the 081-21080 well	not reported
2184053	7/8/13	Routine/Complete Inspection	081-21080	Violation(s) Noted	672806	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	brine	not reported	not reported	not reported	not reported	assuming no, routine inspection	Brine/produced water spill. Sumps dug in the fill slope and are recovering spilled material. Violations cited at the 081-21080 well	not reported
2184351	6/3/13	Incident-Response to Accident or Event	129-28781	Violation(s) Noted	672880	301CSL - Stream discharge of IW, includes drill cuttings, oil, brine and/or silt	y	drill cuttings, oil, brine and/or silt	y	not reported	not reported	not reported	no	Stream discharge of IW, includes drill cuttings, oil, brine and/or silt	not reported
2184351	6/3/13	Incident-Response to Accident or Event	129-28781	Violation(s) Noted	672879	78.54 - Failure to properly control or dispose of industrial or residual waste to prevent pollution of the waters of the Commonwealth.	y	drill cuttings, oil, brine and/or silt	y	not reported	not reported	not reported	no	Stream discharge of IW, includes drill cuttings, oil, brine and/or silt	not reported
2184351	6/3/13	Incident-Response to Accident or Event	129-28781	Violation(s) Noted	672878	78.56(1) - Pit and tanks not constructed with sufficient capacity to contain pollitional substances.	y	drill cuttings, oil, brine and/or silt	y	not reported	not reported	not reported	no	Stream discharge of IW, includes drill cuttings, oil, brine and/or silt	not reported
2184485	7/18/13	Routine/Complete Inspection	033-27221	Violation(s) Noted	672905	307CSL - Discharge of industrial waste to waters of Commonwealth without a permit.	y	pollutional substances	y	waters of the commonwealth	not reported	not reported	no	Discharge of pollutional material to waters of Commonwealth.	not reported
2184485	7/18/13	Routine/Complete Inspection	033-27221	Violation(s) Noted	672905	307CSL - Discharge of industrial waste to waters of Commonwealth without a permit.	y	pollutional substances	y	waters of the commonwealth	not reported	not reported	no	Discharge of pollutional material to waters of Commonwealth.	not reported
2184646	7/17/13	Incident-Response to Accident or Event	117-21493	Viol(s) Noted & Immediately Corrected	672960	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	oil	not reported	not reported	70 gallons	not reported	assuming yes, due to lack of violation	not reported	not reported
2185121	7/18/13	Complaint Inspection	007-20304	Violation(s) Noted	673073	102.11 - Failure to design, implement or maintain BMPs to minimize the potential for accelerated erosion and sedimentation.									
2185232	7/22/13	Routine/Complete Inspection	033-27221	Outstanding Violations - Viols Req'd	673076	307CSL - Discharge of industrial waste to waters of Commonwealth without a permit.	y	pollutional substances	y	waters of the commonwealth	not reported	not reported	no	Discharge of pollutional material to waters of Commonwealth.	not reported

2185316	7/18/13	Routine/Complete Inspection	083-53293	Violation(s) Noted	673099	206C - Failure to restore well site within nine months after completion of drilling, failure to remove all pits, drilling supplies and equipment not needed for production.											
2185851	7/10/13	Incident-Response to Accident or Event	059-25755	Violation(s) Noted	673329	91.34A - Failure to take all necessary measures to prevent spill. Inadequate diking, potential pollution	y	pollutants	not reported	not reported	not reported	not reported	assuming yes, due to lack of violation	Inadequate diking, Uncontrolled release and fire. Inspection found, pollutants off-site, inadequate BMPs and major modifications without Department approval.	not reported		
2186145	7/24/13	Routine/Partial Inspection	117-21027	Violation(s) Noted	673438	78.65(2) - Failure to restore site within 30 days of permit expiration when well not drilled											
2186325	7/17/13	Drilling/Alteration	081-20584	Violation(s) Noted	673461	78.86 - Failure to report defective, insufficient, or improperly cemented casing w/in 24 hrs or submit plan to correct w/in 30 days											
2186332	7/24/13	Complaint Inspection	083-55901	Viol(s) Noted & Immediately Corrected	673476	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.											
2186557	7/26/13	Administrative/File Review	125-24781	Viol(s) Noted & Immediately Corrected	673561	212WELLRCD - Failure to submit well record within 30 days of completion of drilling											
2186916	7/17/13	Routine/Complete Inspection	047-24644	Violation(s) Noted	673766	210UNPLUG - Failure to plug a well upon abandonment											
2186959	7/17/13	Routine/Complete Inspection	047-24645	Violation(s) Noted	673773	210UNPLUG - Failure to plug a well upon abandonment											
2186965	7/23/13	Incident-Response to Accident or Event	125-24718	Violation(s) Noted	673775	402CSL - Failure to adopt pollution prevention measures required or prescribed by DEP by handling materials that create a danger of pollution.	y	fluid	not reported	not reported	130 bbls	not reported	assuming yes, due to lack of violation	not reported	not reported		
2187279	7/25/13	Follow-up Inspection	015-22547	Violation(s) Noted	673917	78.73B - Excessive casing seat pressure											
2187279	7/25/13	Follow-up Inspection	015-22547	Violation(s) Noted	673918	78.85 - Inadequate, insufficient, and/or improperly installed cement											
2187504	7/31/13	Administrative/File Review	047-24582	Violation(s) Noted	673969	210UNPLUG - Failure to plug a well upon abandonment											
2187505	7/31/13	Administrative/File Review	047-24648	Violation(s) Noted	673971	210UNPLUG - Failure to plug a well upon abandonment											

2187919	7/31/13	Routine/Complete Inspection	131-20260	Viol(s) Noted & Immediately Corrected	674068	402CSL - Failure to adopt pollution prevention measures required or prescribed by DEP by handling materials that create a danger of pollution.	y	base oil	not reported	containment	small amount	not reported	assuming no, routine inspection	not reported	na
2187919	7/31/13	Routine/Complete Inspection	131-20260	Viol(s) Noted & Immediately Corrected	674067	91.34A - Failure to take all necessary measures to prevent spill. Inadequate diking, potential pollution	y	base oil	not reported	containment	small amount	not reported	assuming no, routine inspection	not reported	na
2187946	7/30/13	Incident-Response to Accident or Event	059-26095	Violation(s) Noted	674078	402CSL - Failure to adopt pollution prevention measures required or prescribed by DEP by handling materials that create a danger of pollution.	y	flowback	not reported	not reported	10,000 gallon flowback spill	not reported	assuming yes, due to lack of violation	not reported	not reported
2188291	7/31/13	Routine/Partial Inspection	081-21088	Violation(s) Noted	674186	201E - Failure to comply with terms and conditions of permit									
2188291	7/31/13	Routine/Partial Inspection	081-21088	Violation(s) Noted	674183	402CSL - Failure to adopt pollution prevention measures required or prescribed by DEP by handling materials that create a danger of pollution.									
2188291	7/31/13	Routine/Partial Inspection	081-21088	Violation(s) Noted	674184	78.56(1) - Pit and tanks not constructed with sufficient capacity to contain polluttional substances.									
2188291	7/31/13	Routine/Partial Inspection	081-21088	Violation(s) Noted	674185	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.									
2188557	7/26/13	Incident-Response to Accident or Event	115-21214	Viol(s) Noted & Immediately Corrected	674226	402CSL - Failure to adopt pollution prevention measures required or prescribed by DEP by handling materials that create a danger of pollution.	y	mineral oil	not reported	well pad	84 gallons, 18 gallons recovered	not reported	assuming yes, due to lack of violation	Result of a valve left open on a tank.	1 day
2188557	7/26/13	Incident-Response to Accident or Event	115-21214	Viol(s) Noted & Immediately Corrected	674227	91.34A - Failure to take all necessary measures to prevent spill. Inadequate diking, potential pollution	y	mineral oil	not reported	well pad	84 gallons, 18 gallons recovered	not reported	assuming yes, due to lack of violation	Result of a valve left open on a tank.	1 day
2188766	7/30/13	Incident-Response to Accident or Event	005-29498	Violation(s) Noted	674276	401 CSL - Discharge of polluttional material to waters of Commonwealth.	y	produced water	not reported	on site	1/2 barrel	10'x10' and 1' deep.	yes	The Department observed what appeared to be a pin hole which appeared to be the cause of the spill.	not reported, inspection 1 day later
2188766	7/30/13	Incident-Response to Accident or Event	005-29498	Violation(s) Noted	674277	78.57 - Failure to post pit approval number	y	produced water	not reported	on site	1/2 barrel	10'x10' and 1' deep.	yes	The Department observed what appeared to be a pin hole which appeared to be the cause of the spill.	not reported, inspection 1 day later
2188784	7/24/13	Incident-Response to Accident or Event	019-21494	Violation(s) Noted	674278	307CSL - Discharge of industrial waste to waters of Commonwealth without a permit.	y	polluttional substances	y	waters of the commonwealth	not reported	not reported	no	Discharge of polluttional material to waters of Commonwealth.	not reported

2188784	7/24/13	Incident-Response to Accident or Event	019-21494	Violation(s) Noted	674279	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	pollutional substances	y	waters of the commonwealth	not reported	not reported	no	Discharge of pollutional material to waters of Commonwealth.	not reported
2188809	8/2/13	Incident-Response to Accident or Event	115-21242	Viol(s) Noted & Immediately Corrected	674294	402CSL - Failure to adopt pollution prevention measures required or prescribed by DEP by handling materials that create a danger of pollution.	y	diesel	not reported	to containment, but the sheets were degraded	147 gallons	not reported	yes	The seals between the mat sheets degraded and allowed fuel to impact the pad surface.	not reported, inspection 1 day later
2188809	8/2/13	Incident-Response to Accident or Event	115-21242	Viol(s) Noted & Immediately Corrected	674295	91.34A - Failure to take all necessary measures to prevent spill. Inadequate diking, potential pollution	y	diesel	not reported	to containment, but the sheets were degraded	147 gallons	not reported	yes	The seals between the mat sheets degraded and allowed fuel to impact the pad surface.	not reported, inspection 1 day later
2188809	8/2/13	Incident-Response to Accident or Event	115-21242	Viol(s) Noted & Immediately Corrected	674296	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	diesel	not reported	to containment, but the sheets were degraded	147 gallons	not reported	yes	The seals between the mat sheets degraded and allowed fuel to impact the pad surface.	not reported, inspection 1 day later
2189002	7/23/13	Follow-up Inspection	105-21781	Violation(s) Noted	674378	78.85 - Inadequate, insufficient, and/or improperly installed cement									
2189002	7/23/13	Follow-up Inspection	105-21781	Violation(s) Noted	674377	78.86 - Failure to report defective, insufficient, or improperly cemented casing w/in 24 hrs or submit plan to correct w/in 30 days									
2189455	8/2/13	Routine/Complete Inspection	015-22158	Viol(s) Noted & Immediately Corrected	674547	601.101 - O&G Act 223-General. Used only when a specific O&G Act code cannot be used									
2189814	8/6/13	Incident-Response to Accident or Event	129-28797	Violation(s) Noted	674641	78.54 - Failure to properly control or dispose of industrial or residual waste to prevent pollution of the waters of the Commonwealth.	y	drilling water contained liquid aluminum, defoamer, flocculants and surfactants.	not reported	off containment	1.5 barrels	20'x25'x8"	assuming yes, due to lack of violation	not reported	not reported
2190103	8/9/13	Follow-up Inspection	131-20283	Violation(s) Noted	674758	402CSL - Failure to adopt pollution prevention measures required or prescribed by DEP by handling materials that create a danger of pollution.	y	not reported	not reported	not reported	not reported	not reported	no	not reported	not reported
2190103	8/9/13	Follow-up Inspection	131-20283	Violation(s) Noted	674757	91.33A - Failure to notify DEP of pollution incident. No phone call made forthwith	y	not reported	not reported	not reported	not reported	not reported	no	not reported	not reported
2190103	8/9/13	Follow-up Inspection	131-20283	Violation(s) Noted	674759	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	not reported	not reported	not reported	not reported	not reported	no	not reported	not reported

2190205	8/7/13	Incident-Response to Accident or Event	115-21214	Violation(s) Noted	674779	402CSL - Failure to adopt pollution prevention measures required or prescribed by DEP by handling materials that create a danger of pollution.	y	diesel	not reported	well pad and side ditch	948 or 300 gallons	not reported	assuming yes, due to lack of violation	Marcellus incident report indicates a fuel filter sight glass broke resulting in a spill	not reported
2190205	8/7/13	Incident-Response to Accident or Event	115-21214	Violation(s) Noted	674861	601.101 - O&G Act 223-General. Used only when a specific O&G Act code cannot be used	y	diesel	not reported	well pad and side ditch	948 or 300 gallons	not reported	assuming yes, due to lack of violation	Marcellus incident report indicates a fuel filter sight glass broke resulting in a spill	not reported
2190205	8/7/13	Incident-Response to Accident or Event	115-21214	Violation(s) Noted	674780	91.34A - Failure to take all necessary measures to prevent spill. Inadequate diking, potential pollution	y	diesel	not reported	well pad and side ditch	948 or 300 gallons	not reported	assuming yes, due to lack of violation	Marcellus incident report indicates a fuel filter sight glass broke resulting in a spill	not reported
2190205	8/7/13	Incident-Response to Accident or Event	115-21214	Violation(s) Noted	674781	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	diesel	not reported	well pad and side ditch	948 or 300 gallons	not reported	assuming yes, due to lack of violation	Marcellus incident report indicates a fuel filter sight glass broke resulting in a spill	not reported
2194641	8/7/13	Incident-Response to Accident or Event	117-21581	Violation(s) Noted	674911	402CSL - Failure to adopt pollution prevention measures required or prescribed by DEP by handling materials that create a danger of pollution.	y	produced water	not reported	well pad	5 bbls	not reported	assuming yes, due to lack of violation	Spill of 5 bbls of produced water from hole in coil tubing unit. Spill to containment and pad, particularly north side. Holes in liner. TLT	not reported
2194641	8/7/13	Incident-Response to Accident or Event	117-21581	Violation(s) Noted	674910	78.54 - Failure to properly control or dispose of industrial or residual waste to prevent pollution of the waters of the Commonwealth.	y	produced water	not reported	well pad	5 bbls	not reported	assuming yes, due to lack of violation	Spill of 5 bbls of produced water from hole in coil tubing unit. Spill to containment and pad, particularly north side. Holes in liner. TLT	not reported
2194641	8/7/13	Incident-Response to Accident or Event	117-21581	Violation(s) Noted	674912	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	produced water	not reported	well pad	5 bbls	not reported	assuming yes, due to lack of violation	Spill of 5 bbls of produced water from hole in coil tubing unit. Spill to containment and pad, particularly north side. Holes in liner. TLT	not reported
2195026	8/8/13	Incident-Response to Accident or Event	053-30217	Violation(s) Noted	675066	402CSL - Failure to adopt pollution prevention measures required or prescribed by DEP by handling materials that create a danger of pollution.	y	brine	not reported	not reported	not reported	not reported	no	Discharge of Rsidual Waste to the ground	not reported
2195026	8/8/13	Incident-Response to Accident or Event	053-30217	Violation(s) Noted	675065	78.56(1) - Pit and tanks not constructed with sufficient capacity to contain polluttional substances.	y	brine	not reported	not reported	not reported	not reported	no	Discharge of Rsidual Waste to the ground	not reported
2195026	8/8/13	Incident-Response to Accident or Event	053-30217	Violation(s) Noted	675067	78.66BRINE - Failure to report a reportable release of brine to DEP within 2 hours.	y	brine	not reported	not reported	not reported	not reported	no	Discharge of Rsidual Waste to the ground	not reported
2195026	8/8/13	Incident-Response to Accident or Event	053-30217	Violation(s) Noted	675068	91.33A - Failure to notify DEP of pollution incident. No phone call made forthwith	y	brine	not reported	not reported	not reported	not reported	no	Discharge of Rsidual Waste to the ground	not reported

2195026	8/8/13	Incident-Response to Accident or Event	053-30217	Violation(s) Noted	675064	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	brine	not reported	not reported	not reported	not reported	no	Discharge of Residual Waste to the ground	not reported
2195289	8/14/13	Administrative/File Review	129-28725	Viol(s) Noted & Immediately Corrected	675160	206C - Failure to restore well site within nine months after completion of drilling, failure to remove all pits, drilling supplies and equipment not needed for production.									
2195297	8/14/13	Administrative/File Review	129-28730	Viol(s) Noted & Immediately Corrected	675161	206C - Failure to restore well site within nine months after completion of drilling, failure to remove all pits, drilling supplies and equipment not needed for production.									
2195303	8/14/13	Administrative/File Review	129-28659	Viol(s) Noted & Immediately Corrected	675164	206C - Failure to restore well site within nine months after completion of drilling, failure to remove all pits, drilling supplies and equipment not needed for production.									
2195414	8/13/13	Routine/Complete Inspection	121-44946	Violation(s) Noted	675184	301CSL - Stream discharge of IW, includes drill cuttings, oil, brine and/or silt	y	drill cuttings, oil, brine and/or silt	y	streams of the commonwealth	not reported	not reported	no	Stream discharge of IW, includes drill cuttings, oil, brine and/or	not reported
2195414	8/13/13	Routine/Complete Inspection	121-44946	Violation(s) Noted	675184	301CSL - Stream discharge of IW, includes drill cuttings, oil, brine and/or silt	y	drill cuttings, oil, brine and/or silt	y	streams of the commonwealth	not reported	not reported	no	Stream discharge of IW, includes drill cuttings, oil, brine and/or	not reported
2195414	8/13/13	Routine/Complete Inspection	121-44946	Violation(s) Noted	675183	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	drill cuttings, oil, brine and/or silt	y	streams of the commonwealth	not reported	not reported	no	Stream discharge of IW, includes drill cuttings, oil, brine and/or	not reported
2195414	8/13/13	Routine/Complete Inspection	121-44946	Violation(s) Noted	675183	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	drill cuttings, oil, brine and/or silt	y	streams of the commonwealth	not reported	not reported	no	Stream discharge of IW, includes drill cuttings, oil, brine and/or	not reported
2196286	8/16/13	Drilling/Alteration	131-20301	Violation(s) Noted	675372	201G - Failure to post permit number, operator name, address, telephone number in a conspicuous manner at the site during drilling									
2197955	8/21/13	Routine/Complete Inspection	007-20361	Violation(s) Noted	675777	91.33POLLINC - Pollution incident was not reported to DEP.	y	unknown	not reported	near baker tanks, west side of containment	not reported	50 ft x 20 ft	no	not reported	not reported

2197955	8/21/13	Routine/Complete Inspection	007-20361	Violation(s) Noted	675778	91.33POLLINC - Pollution incident was not reported to DEP.	y	unknown	not reported	near baker tanks, west side of containment	not reported	50 ft x 20 ft	no	not reported	not reported
2198917	8/26/13	Routine/Complete Inspection	081-20830	Violation(s) Noted	676016	402CSL - Failure to adopt pollution prevention measures required or prescribed by DEP by handling materials that create a danger of pollution.									
2198917	8/26/13	Routine/Complete Inspection	081-20830	Violation(s) Noted	676019	601.101 - O&G Act 223-General. Used only when a specific O&G Act code cannot be used									
2198917	8/26/13	Routine/Complete Inspection	081-20830	Violation(s) Noted	676017	78.56(1) - Pit and tanks not constructed with sufficient capacity to contain polluttional substances.									
2198917	8/26/13	Routine/Complete Inspection	081-20830	Violation(s) Noted	676018	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.									
2199987	8/27/13	Compliance Evaluation	117-21493	Recurring Violations	676408	78.54 - Failure to properly control or dispose of industrial or residual waste to prevent pollution of the waters of the Commonwealth.	y	unknown	not reported	not reported	not reported	puddles	assuming no, routine inspection	not reported	not reported
2200827	8/13/13	Routine/Partial Inspection	081-20298	Viol(s) Noted & Immediately Corrected	676592	402CSL - Failure to adopt pollution prevention measures required or prescribed by DEP by handling materials that create a danger of pollution.	y	diesel	not reported	well pad	not reported	not reported	assuming no, routine inspection	not reported	not reported
2200827	8/13/13	Routine/Partial Inspection	081-20298	Viol(s) Noted & Immediately Corrected	676593	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	diesel	not reported	well pad	not reported	not reported	assuming no, routine inspection	not reported	not reported
2201234	8/27/13	Routine/Complete Inspection	115-20240	Violation(s) Noted	676857	401 CSL - Discharge of polluttional material to waters of Commonwealth.	y	flowback	not reported	tank pad connected to well by an access road	1 bbl	not reported	yes	not reported	1 hour; inspection next day
2201234	8/27/13	Routine/Complete Inspection	115-20240	Violation(s) Noted	676858	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	flowback	not reported	tank pad connected to well by an access road	1 bbl	not reported	yes	not reported	1 hour; inspection next day
2201919	9/5/13	Incident-Response to Accident or Event	131-20259	Viol(s) Noted & Immediately Corrected	677282	78.54 - Failure to properly control or dispose of industrial or residual waste to prevent pollution of the waters of the Commonwealth.	y	synthetic oil-based mud	not reported	not reported	not reported	not reported	assuming yes, due to lack of violation	not reported	not reported

2202641	8/14/13	Routine/Complete Inspection	115-21351	Violation(s) Noted	677507	402CSL B - Failure to meet requirements of permit, rules and regulations, or order of DEP.									
2203926	9/12/13	Routine/Complete Inspection	015-20668	Violation(s) Noted	677834	206C - Failure to restore well site within nine months after completion of drilling, failure to remove all pits, drilling supplies and equipment not needed for production.									
2204910	9/9/13	Routine/Complete Inspection	117-20819	Violation(s) Noted	678293	78.73B - Excessive casing seat pressure									
2204910	9/9/13	Routine/Complete Inspection	117-20819	Violation(s) Noted	678294	78.81D2 - Failure to case and cement properly through storage reservoir or storage horizon									
2204910	9/9/13	Routine/Complete Inspection	117-20819	Violation(s) Noted	678295	78.85 - Inadequate, insufficient, and/or improperly installed cement									
2204922	9/9/13	Routine/Complete Inspection	117-20908	Violation(s) Noted	678296	78.73B - Excessive casing seat pressure									
2204922	9/9/13	Routine/Complete Inspection	117-20908	Violation(s) Noted	678297	78.81D2 - Failure to case and cement properly through storage reservoir or storage horizon									
2204922	9/9/13	Routine/Complete Inspection	117-20908	Violation(s) Noted	678298	78.85 - Inadequate, insufficient, and/or improperly installed cement									
2205176	9/18/13	Routine/Partial Inspection	073-20370	Violation(s) Noted	678401	210UNPLUG - Failure to plug a well upon abandonment									
2205193	9/18/13	Routine/Partial Inspection	073-20369	Violation(s) Noted	678402	210UNPLUG - Failure to plug a well upon abandonment									
2205195	9/18/13	Routine/Partial Inspection	073-20371	Violation(s) Noted	678403	210UNPLUG - Failure to plug a well upon abandonment									
2205196	9/18/13	Routine/Partial Inspection	073-20376	Violation(s) Noted	678404	210UNPLUG - Failure to plug a well upon abandonment									
2206094	9/23/13	Drilling/Alteration	051-24511	Outstanding Violations - No Viols Req'd	678680	78.86 - Failure to report defective, insufficient, or improperly cemented casing w/in 24 hrs or submit plan to correct w/in 30 days									
2206378	9/20/13	Follow-up Inspection	113-20029	Viol(s) Noted & Immediately Corrected	681807	78.54 - Failure to properly control or dispose of industrial or residual waste to prevent pollution of the waters of the Commonwealth.	y	brine	not reported	well pad	25 - 30 gallons	not reported	assuming no, routine inspection	not reported	not reported
2206498	9/23/13	Routine/Complete Inspection	031-25604	Violation(s) Noted	678789	OGA3218.2(A) - Failure to design and construct unconventional well site to prevent spills to the ground surface and off well site.									

2206538	9/23/13	Routine/Complete Inspection	031-25447	Violation(s) Noted	678830	201G - Failure to post permit number, operator name, address, telephone number in a conspicuous manner at the site during drilling									
2206538	9/23/13	Routine/Complete Inspection	031-25447	Violation(s) Noted	678829	78.55 - No Control and Disposal/PPC plan or failure to implement PPC plan									
2207469	9/24/13	Incident-Response to Accident or Event	015-21484	Viol(s) Noted & Immediately Corrected	679000	402CSL - Failure to adopt pollution prevention measures required or prescribed by DEP by handling materials that create a danger of pollution.	y	produced liquid	not reported	not reported	5 gallons	not reported	assuming yes, due to lack of violation	not reported	not reported
2207469	9/24/13	Incident-Response to Accident or Event	015-21484	Viol(s) Noted & Immediately Corrected	679001	78.54 - Failure to properly control or dispose of industrial or residual waste to prevent pollution of the waters of the Commonwealth.	y	produced liquid	not reported	not reported	5 gallons	not reported	assuming yes, due to lack of violation	not reported	not reported
2207469	9/24/13	Incident-Response to Accident or Event	015-21484	Viol(s) Noted & Immediately Corrected	679002	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	produced liquid	not reported	not reported	5 gallons	not reported	assuming yes, due to lack of violation	not reported	not reported
2207574	9/25/13	Follow-up Inspection	117-21581	Outstanding Violations - Viols Req'd	679029	402CSL - Failure to adopt pollution prevention measures required or prescribed by DEP by handling materials that create a danger of pollution.	y	flowback	not reported	well pad and rocklined ditch	not reported	not reported	assuming yes, due to lack of violation	Containment leak	not reported
2207574	9/25/13	Follow-up Inspection	117-21581	Outstanding Violations - Viols Req'd	679031	601.101 - O&G Act 223-General. Used only when a specific O&G Act code cannot be used	y	flowback	not reported	well pad and rocklined ditch	not reported	not reported	assuming yes, due to lack of violation	Containment leak	not reported
2207574	9/25/13	Follow-up Inspection	117-21581	Outstanding Violations - Viols Req'd	679028	78.54 - Failure to properly control or dispose of industrial or residual waste to prevent pollution of the waters of the Commonwealth.	y	flowback	not reported	well pad and rocklined ditch	not reported	not reported	assuming yes, due to lack of violation	Containment leak	not reported
2207574	9/25/13	Follow-up Inspection	117-21581	Outstanding Violations - Viols Req'd	679030	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	flowback	not reported	well pad and rocklined ditch	not reported	not reported	assuming yes, due to lack of violation	Containment leak	not reported
2207887	9/25/13	Incident-Response to Accident or Event	081-21071	Viol(s) Noted & Immediately Corrected	679177	78.54 - Failure to properly control or dispose of industrial or residual waste to prevent pollution of the waters of the Commonwealth.	y	flowback	not reported	ground	20 gal	not reported	assuming yes, due to lack of violation	not reported	not reported

2208519	9/27/13	Incident-Response to Accident or Event	031-25604	Outstanding Violations - Viols Req'd	679310	402CSL - Failure to adopt pollution prevention measures required or prescribed by DEP by handling materials that create a danger of pollution.	y	drilling mud, hydraulic oil, diesel fuel, drilling mud additives, hydraulic fracturing additives, hydraulic fracturing flowback	y	waters of the commonwealth	not reported	not reported	no	not reported	not reported
2208519	9/27/13	Incident-Response to Accident or Event	031-25604	Outstanding Violations - Viols Req'd	679311	78.54 - Failure to properly control or dispose of industrial or residual waste to prevent pollution of the waters of the Commonwealth.	y	drilling mud, hydraulic oil, diesel fuel, drilling mud additives, hydraulic fracturing additives, hydraulic fracturing flowback	y	waters of the commonwealth	not reported	not reported	no	not reported	not reported
2208519	9/27/13	Incident-Response to Accident or Event	031-25604	Outstanding Violations - Viols Req'd	679309	78.66A - Failure to report release of substance threatening or causing pollution	y	drilling mud, hydraulic oil, diesel fuel, drilling mud additives, hydraulic fracturing additives, hydraulic fracturing flowback	y	waters of the commonwealth	not reported	not reported	no	not reported	not reported
2208519	9/27/13	Incident-Response to Accident or Event	031-25604	Outstanding Violations - Viols Req'd	679308	91.33A - Failure to notify DEP of pollution incident. No phone call made forthwith	y	drilling mud, hydraulic oil, diesel fuel, drilling mud additives, hydraulic fracturing additives, hydraulic fracturing flowback	y	waters of the commonwealth	not reported	not reported	no	not reported	not reported
2208519	9/27/13	Incident-Response to Accident or Event	031-25604	Outstanding Violations - Viols Req'd	679312	OGA3218.2(C) - Failure to use containment systems for (1) drilling mud, (2) hydraulic oil, (3) diesel fuel, (4) drilling mud additives, (5) hydraulic fracturing additives, (6) hydraulic fracturing flowback.	y	drilling mud, hydraulic oil, diesel fuel, drilling mud additives, hydraulic fracturing additives, hydraulic fracturing flowback	y	waters of the commonwealth	not reported	not reported	no	not reported	not reported

2208519	9/27/13	Incident-Response to Accident or Event	031-25604	Outstanding Violations - Viols Req'd	679313	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	drilling mud, hydraulic oil, diesel fuel, drilling mud additives, hydraulic fracturing additives, hydraulic fracturing flowback	y	waters of the commonwealth	not reported	not reported	no	not reported	not reported
2208531	9/24/13	Incident-Response to Accident or Event	115-21140	Violation(s) Noted	679315	402CSL - Failure to adopt pollution prevention measures required or prescribed by DEP by handling materials that create a danger of pollution.	y	ethylene glycol	not reported	well pad	120 gallons	not reported	yes	Reported cause of release was a production equipment problem.	not reported, inspection 1 hour later
2208531	9/24/13	Incident-Response to Accident or Event	115-21140	Violation(s) Noted	682090	91.34A - Failure to take all necessary measures to prevent spill. Inadequate diking, potential pollution	y	ethylene glycol	not reported	well pad	120 gallons	not reported	yes	Reported cause of release was a production equipment problem.	not reported, inspection 1 hour later
2208531	9/24/13	Incident-Response to Accident or Event	115-21140	Violation(s) Noted	682088	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	ethylene glycol	not reported	well pad	120 gallons	not reported	yes	Reported cause of release was a production equipment problem.	not reported, inspection 1 hour later
2208632	9/29/13	Incident-Response to Accident or Event	115-20906	Violation(s) Noted	679340	402CSL - Failure to adopt pollution prevention measures required or prescribed by DEP by handling materials that create a danger of pollution.	y	produced water	not reported	well pad	100 plus gallons	not reported	yes	Spill was caused by a leak which developed in a production unit.	1 hour
2209050	9/26/13	Administrative/File Review	065-26995	Violation(s) Noted	679510	212WELLRCD - Failure to submit well record within 30 days of completion of drilling									
2209050	9/26/13	Administrative/File Review	065-26995	Violation(s) Noted	679510	212WELLRCD - Failure to submit well record within 30 days of completion of drilling									
2209051	9/26/13	Administrative/File Review	065-26995	Violation(s) Noted	679511	212WELLRCD - Failure to submit well record within 30 days of completion of drilling									
2209051	9/26/13	Administrative/File Review	065-26995	Violation(s) Noted	679511	212WELLRCD - Failure to submit well record within 30 days of completion of drilling									
2209053	9/26/13	Administrative/File Review	065-27007	Violation(s) Noted	679513	212WELLRCD - Failure to submit well record within 30 days of completion of drilling									
2209053	9/26/13	Administrative/File Review	065-27007	Violation(s) Noted	679513	212WELLRCD - Failure to submit well record within 30 days of completion of drilling									

2209112	10/1/13	Routine/Complete Inspection	129-28820	Violation(s) Noted	679523	78.56PITCNST - Impoundment not structurally sound, impermeable, 3rd party protected, greater than 20" of seasonal high ground water table	y	pollutional substances	not reported	containment pond	not reported	not reported	assuming no, routine inspection	Compromised pit liner	not reported
2209112	10/1/13	Routine/Complete Inspection	129-28820	Violation(s) Noted	679524	78.62 - Improper encapsulation of waste	y	pollutional substances	not reported	containment pond	not reported	not reported	assuming no, routine inspection	Compromised pit liner	not reported
2209112	10/1/13	Routine/Complete Inspection	129-28820	Violation(s) Noted	679525	CSL301BYPASS - Industrial waste was discharged without a permit	y	pollutional substances	not reported	containment pond	not reported	not reported	assuming no, routine inspection	Compromised pit liner	not reported
2209983	7/26/13	Administrative/File Review	125-24782	Viol(s) Noted & Immediately Corrected	679674	212WELLRCD - Failure to submit well record within 30 days of completion of drilling									
2210007	7/26/13	Administrative/File Review	125-24783	Viol(s) Noted & Immediately Corrected	679683	212CMPLRPT - Failure to submit completion report within 30 days of completion of well									
2210007	7/26/13	Administrative/File Review	125-24783	Viol(s) Noted & Immediately Corrected	679682	212WELLRCD - Failure to submit well record within 30 days of completion of drilling									
2210051	7/26/13	Administrative/File Review	125-24784	Viol(s) Noted & Immediately Corrected	679685	212CMPLRPT - Failure to submit completion report within 30 days of completion of well									
2210051	7/26/13	Administrative/File Review	125-24784	Viol(s) Noted & Immediately Corrected	679684	212WELLRCD - Failure to submit well record within 30 days of completion of drilling									
2210297	10/4/13	Incident-Response to Accident or Event	081-21137	Viol(s) Noted & Immediately Corrected	679740	78.54 - Failure to properly control or dispose of industrial or residual waste to prevent pollution of the waters of the Commonwealth.	y	oil	not reported	well pad	10 gallons	not reported	assuming yes, due to lack of violation	A broken oil line	not reported
2211218	7/3/13	Administrative/File Review	059-26042	Viol(s) Noted & Immediately Corrected	679905	212WELLRCD - Failure to submit well record within 30 days of completion of drilling									
2211230	7/3/13	Administrative/File Review	059-25817	Viol(s) Noted & Immediately Corrected	679907	212WELLRCD - Failure to submit well record within 30 days of completion of drilling									
2211234	7/3/13	Administrative/File Review	059-26013	Viol(s) Noted & Immediately Corrected	679909	212WELLRCD - Failure to submit well record within 30 days of completion of drilling									

2211237	7/3/13	Administrative/Field Review	059-25895	Viol(s) Noted & Immediately Corrected	679911	212WELLRCD - Failure to submit well record within 30 days of completion of drilling												
2211242	7/3/13	Administrative/Field Review	059-26058	Viol(s) Noted & Immediately Corrected	679914	212WELLRCD - Failure to submit well record within 30 days of completion of drilling												
2211248	7/3/13	Administrative/Field Review	005-31100	Viol(s) Noted & Immediately Corrected	679915	212WELLRCD - Failure to submit well record within 30 days of completion of drilling												
2211255	7/3/13	Administrative/Field Review	003-22236	Viol(s) Noted & Immediately Corrected	679919	212WELLRCD - Failure to submit well record within 30 days of completion of drilling												
2211267	7/3/13	Administrative/Field Review	059-25757	Viol(s) Noted & Immediately Corrected	679921	212CMPLRPT - Failure to submit completion report within 30 days of completion of well												
2211289	7/3/13	Administrative/Field Review	059-25762	Viol(s) Noted & Immediately Corrected	679922	212CMPLRPT - Failure to submit completion report within 30 days of completion of well												
2211293	7/3/13	Administrative/Field Review	059-25582	Viol(s) Noted & Immediately Corrected	679923	212CMPLRPT - Failure to submit completion report within 30 days of completion of well												
2211294	7/3/13	Administrative/Field Review	005-30864	Viol(s) Noted & Immediately Corrected	679924	212CMPLRPT - Failure to submit completion report within 30 days of completion of well												
2211299	7/3/13	Administrative/Field Review	059-25825	Viol(s) Noted & Immediately Corrected	679925	212CMPLRPT - Failure to submit completion report within 30 days of completion of well												
2211301	7/3/13	Administrative/Field Review	059-25961	Viol(s) Noted & Immediately Corrected	679926	212CMPLRPT - Failure to submit completion report within 30 days of completion of well												
2211302	7/3/13	Administrative/Field Review	059-26009	Viol(s) Noted & Immediately Corrected	679927	212CMPLRPT - Failure to submit completion report within 30 days of completion of well												
2211305	7/3/13	Administrative/Field Review	059-25960	Viol(s) Noted & Immediately Corrected	679928	212CMPLRPT - Failure to submit completion report within 30 days of completion of well												

2211307	7/3/13	Administrative/File Review	059-25819	Viol(s) Noted & Immediately Corrected	679929	212CMPLRPT - Failure to submit completion report within 30 days of completion of well									
2211405	10/3/13	Drilling/Alteration	121-45028	Violation(s) Noted	679943	601.101 - O&G Act 223-General. Used only when a specific O&G Act code cannot be used									
2211412	10/3/13	Drilling/Alteration	121-45029	Violation(s) Noted	679946	601.101 - O&G Act 223-General. Used only when a specific O&G Act code cannot be used									
2211789	10/9/13	Incident-Response to Accident or Event	115-21261	Viol(s) Noted & Immediately Corrected	680018	402CSL - Failure to adopt pollution prevention measures required or prescribed by DEP by handling materials that create a danger of pollution.	y	flowback	not reported	surface of the ground	30 gallons	not reported	assuming yes, due to lack of violation	The spill occurred as a residual waste vacuum truck was off-loading flowback fluid into a frac tank on secondary containment. The pressure relief valve on the top of the truck popped off due to over pressurization/mechanical malfunction. The fluid spilled out of the opening of the valve, ran down the side of the truck eventually to the surface of the ground.	not reported
2211789	10/9/13	Incident-Response to Accident or Event	115-21261	Viol(s) Noted & Immediately Corrected	680019	78.56(1) - Pit and tanks not constructed with sufficient capacity to contain polluttional substances.	y	flowback	not reported	surface of the ground	30 gallons	not reported	assuming yes, due to lack of violation	The spill occurred as a residual waste vacuum truck was off-loading flowback fluid into a frac tank on secondary containment. The pressure relief valve on the top of the truck popped off due to over pressurization/mechanical malfunction. The fluid spilled out of the opening of the valve, ran down the side of the truck eventually to the surface of the ground.	not reported
2211789	10/9/13	Incident-Response to Accident or Event	115-21261	Viol(s) Noted & Immediately Corrected	680020	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	flowback	not reported	surface of the ground	30 gallons	not reported	assuming yes, due to lack of violation	The spill occurred as a residual waste vacuum truck was off-loading flowback fluid into a frac tank on secondary containment. The pressure relief valve on the top of the truck popped off due to over pressurization/mechanical malfunction. The fluid spilled out of the opening of the valve, ran down the side of the truck eventually to the surface of the ground.	not reported

2211807	7/26/13	Administrative/Field Review	125-24785	Viol(s) Noted & Immediately Corrected	680032	212CMPLRPT - Failure to submit completion report within 30 days of completion of well										
2211807	7/26/13	Administrative/Field Review	125-24785	Viol(s) Noted & Immediately Corrected	680031	212WELLRCD - Failure to submit well record within 30 days of completion of drilling										
2211813	7/26/13	Administrative/Field Review	125-24786	Viol(s) Noted & Immediately Corrected	680044	212CMPLRPT - Failure to submit completion report within 30 days of completion of well										
2211813	7/26/13	Administrative/Field Review	125-24786	Viol(s) Noted & Immediately Corrected	680043	212WELLRCD - Failure to submit well record within 30 days of completion of drilling										
2211815	7/26/13	Administrative/Field Review	125-24794	Viol(s) Noted & Immediately Corrected	680048	212CMPLRPT - Failure to submit completion report within 30 days of completion of well										
2211815	7/26/13	Administrative/Field Review	125-24794	Viol(s) Noted & Immediately Corrected	680047	212WELLRCD - Failure to submit well record within 30 days of completion of drilling										
2214194	10/15/13	Incident-Response to Accident or Event	081-21071	Violation(s) Noted	680653	601.101 - O&G Act 223-General. Used only when a specific O&G Act code cannot be used	y	drilling mud and fluid	not reported	ground and drainage	not reported	not reported	assuming yes, due to lack of violation	A vent pipe from well drilling was not properly placed within or on containment	not reported	
2214194	10/15/13	Incident-Response to Accident or Event	081-21071	Violation(s) Noted	680651	78.54 - Failure to properly control or dispose of industrial or residual waste to prevent pollution of the waters of the Commonwealth.	y	drilling mud and fluid	not reported	ground and drainage	not reported	not reported	assuming yes, due to lack of violation	A vent pipe from well drilling was not properly placed within or on containment	not reported	
2214194	10/15/13	Incident-Response to Accident or Event	081-21071	Violation(s) Noted	680652	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	drilling mud and fluid	not reported	ground and drainage	not reported	not reported	assuming yes, due to lack of violation	A vent pipe from well drilling was not properly placed within or on containment	not reported	
2214401	10/18/13	Routine/Complete Inspection	123-46556	Violation(s) Noted	680694	210UNPLUG - Failure to plug a well upon abandonment										
2215053	10/22/13	Drilling/Alteration	115-21406	Violation(s) Noted	681800	402CSL - Failure to adopt pollution prevention measures required or prescribed by DEP by handling materials that create a danger of pollution.	y	bennite drilling mud, fluids (mostly water)	not reported	unsure of where water went	100 bbls	not reported	assuming yes, due to lack of violation	Poorly constructed cellar used for circulating while running casing in prep to cement.	not reported	
2215053	10/22/13	Drilling/Alteration	115-21406	Violation(s) Noted	681801	78.56(1) - Pit and tanks not constructed with sufficient capacity to contain polluttional substances.	y	bennite drilling mud, fluids (mostly water)	not reported	unsure of where water went	100 bbls	not reported	assuming yes, due to lack of violation	Poorly constructed cellar used for circulating while running casing in prep to cement.	not reported	

2215053	10/22/13	Drilling/Alteration	115-21406	Violation(s) Noted	681802	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	bennite drilling mud, fluids (mostly water)	not reported	unsure of where water went	100 bbls	not reported	assuming yes, due to lack of violation	Poorly constructed cellar used for circulating while running casing in prep to cement.	not reported
2217276	10/25/13	Administrative/Fil e Review	083-56114	Violation(s) Noted	681541	212WELLRCD - Failure to submit well record within 30 days of completion of drilling									
2217886	10/29/13	Incident-Response to Accident or Event	113-20010	Violation(s) Noted	681680	78.54 - Failure to properly control or dispose of industrial or residual waste to prevent pollution of the waters of the Commonwealth.	y	flowback	not reported	well pad, under liner	not reported	50 x 75'	assuming yes, due to lack of violation	Flowback iron appears to have leaked at joint, got under liner, accumulated and spread over an area some 50 x 75' in the northeastern quadrant of the pad.	not reported
2217886	10/29/13	Incident-Response to Accident or Event	113-20010	Violation(s) Noted	681681	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	flowback	not reported	well pad, under liner	not reported	50 x 75'	assuming yes, due to lack of violation	Flowback iron appears to have leaked at joint, got under liner, accumulated and spread over an area some 50 x 75' in the northeastern quadrant of the pad.	not reported
2218194	10/4/13	Incident-Response to Accident or Event	059-24928	Violation(s) Noted	681748	402CSL - Failure to adopt pollution prevention measures required or prescribed by DEP by handling materials that create a danger of pollution.	y	pollutional substances	not reported	not reported	20 to 25 barrel (630 to 800 gallon)	not reported	no	not reported	not reported
2218194	10/4/13	Incident-Response to Accident or Event	059-24928	Violation(s) Noted	681749	91.33A - Failure to notify DEP of pollution incident. No phone call made forthwith	y	pollutional substances	not reported	not reported	20 to 25 barrel (630 to 800 gallon)	not reported	no	not reported	not reported
2218796	10/31/13	Routine/Complete Inspection	015-22253	Violation(s) Noted	681996	402CSL - Failure to adopt pollution prevention measures required or prescribed by DEP by handling materials that create a danger of pollution.	y	pollutional substances	not reported	well pad	not reported	not reported	assuming no, routine inspection	not reported	not reported
2218796	10/31/13	Routine/Complete Inspection	015-22253	Violation(s) Noted	681994	78.56(1) - Pit and tanks not constructed with sufficient capacity to contain pollutional substances.	y	pollutional substances	not reported	well pad	not reported	not reported	assuming no, routine inspection	not reported	not reported
2218796	10/31/13	Routine/Complete Inspection	015-22253	Violation(s) Noted	681995	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	pollutional substances	not reported	well pad	not reported	not reported	assuming no, routine inspection	not reported	not reported
2219220	11/5/13	Routine/Complete Inspection	117-21634	Violation(s) Noted	682622	402CSL - Failure to adopt pollution prevention measures required or prescribed by DEP by handling materials that create a danger of pollution.									
2219220	11/5/13	Routine/Complete Inspection	117-21634	Violation(s) Noted	682624	78.56(3) - Impoundment not structurally sound, impermeable, 3rd party protected.									

2219220	11/5/13	Routine/Complete Inspection	117-21634	Violation(s) Noted	682623	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.									
2219644	11/5/13	Incident-Response to Accident or Event	081-21025	Viol(s) Noted & Immediately Corrected	682291	78.57 - Failure to post pit approval number	y	brine	not reported	to containment or off containment	25 barrel brine spill, 5 gallons off containment	not reported	assuming no, routine inspection	not reported	not reported
2219644	11/5/13	Incident-Response to Accident or Event	081-21025	Viol(s) Noted & Immediately Corrected	682297	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	brine	not reported	to containment or off containment	25 barrel brine spill, 5 gallons off containment	not reported	assuming no, routine inspection	not reported	not reported
2220761	11/6/13	Routine/Complete Inspection	117-21514	Violation(s) Noted	682708	78.65(2) - Failure to restore site within 30 days of permit expiration when well not drilled									
2221468	11/14/13	Administrative/Fill Review	063-36627	Viol(s) Noted & Immediately Corrected	682928	208A - Failure to restore a water supply affected by pollution or diminution	y, but unclear	not reported	y, but unclear	not reported	not reported	not reported	unknown, routine inspection, but no violation	not reported	not reported
2221763	11/1/13	Incident-Response to Accident or Event	051-24055	Violation(s) Noted	683034	78.57 - Failure to post pit approval number	y	brine	not reported	roadside ditch (no specific location)	small	not reported	assuming yes, due to lack of violation	Secondary containment had drain pipe with cap, but cap was loose and allowed material to escape off site into roadside ditch.	not reported
2223349	11/15/13	Follow-up Inspection	113-20113	Violation(s) Noted	683413	78.73B - Excessive casing seat pressure									
2223389	11/21/13	Follow-up Inspection	065-26832	Outstanding Violations - Viols Req'd	683447	78.55 - No Control and Disposal/PPC plan or failure to implement PPC plan									
2223389	11/21/13	Follow-up Inspection	065-26832	Outstanding Violations - Viols Req'd	683447	78.55 - No Control and Disposal/PPC plan or failure to implement PPC plan									
2223390	11/21/13	Follow-up Inspection	065-26481	Outstanding Violations - Viols Req'd	683448	78.55 - No Control and Disposal/PPC plan or failure to implement PPC plan									
2223390	11/21/13	Follow-up Inspection	065-26481	Outstanding Violations - Viols Req'd	683448	78.55 - No Control and Disposal/PPC plan or failure to implement PPC plan									
2223464	11/6/13	Routine/Complete Inspection	059-25990	Violation(s) Noted	683479	102.4NOPLAN - No E&S plan developed, plan not on site									
2223464	11/6/13	Routine/Complete Inspection	059-25990	Violation(s) Noted	683478	78.65(2) - Failure to restore site within 30 days of permit expiration when well not drilled									

2224514	11/13/13	Routine/Complete Inspection	015-21345	Violation(s) Noted	683763	OGA 3216(C) - Failure to fill all pits used to contain produced fluids or industrial wastes and remove unnecessary drilling supplies/equipment not needed for production within 9 months from completion of drilling of well.									
2225001	11/25/13	Follow-up Inspection	015-20334	Viol(s) Noted & Immediately Corrected	683897	402CSL - Failure to adopt pollution prevention measures required or prescribed by DEP by handling materials that create a danger of pollution.	y	brine	not reported	not reported	25 gallons	not reported	yes	not reported	6 weeks
2225001	11/25/13	Follow-up Inspection	015-20334	Viol(s) Noted & Immediately Corrected	683898	78.56(1) - Pit and tanks not constructed with sufficient capacity to contain polluttional substances.	y	brine	not reported	not reported	25 gallons	not reported	yes	not reported	6 weeks
2225001	11/25/13	Follow-up Inspection	015-20334	Viol(s) Noted & Immediately Corrected	683899	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	brine	not reported	not reported	25 gallons	not reported	yes	not reported	6 weeks
2226039	11/26/13	Routine/Complete Inspection	085-24642	Violation(s) Noted	684226	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.									
2226330	12/3/13	Incident-Response to Accident or Event	115-20500	Viol(s) Noted & Immediately Corrected	684472	402CSL - Failure to adopt pollution prevention measures required or prescribed by DEP by handling materials that create a danger of pollution.	y	production fluid	not reported	well pad	21 gallons	not reported	yes	The apparent result of the spill was due to a loose hammer union on the GPU.	1 hour
2226330	12/3/13	Incident-Response to Accident or Event	115-20500	Viol(s) Noted & Immediately Corrected	684473	78.57 - Failure to post pit approval number	y	production fluid	not reported	well pad	21 gallons	not reported	yes	The apparent result of the spill was due to a loose hammer union on the GPU.	1 hour
2226330	12/3/13	Incident-Response to Accident or Event	115-20500	Viol(s) Noted & Immediately Corrected	684474	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	production fluid	not reported	well pad	21 gallons	not reported	yes	The apparent result of the spill was due to a loose hammer union on the GPU.	1 hour
2226479	11/26/13	Routine/Complete Inspection	063-37482	Viol(s) Noted & Immediately Corrected	684563	OGA 3211(F2) - Failure to notify DEP 24 hours prior to cementing casing strings, pressure testing of production casing, stimulation of well or plugging of an unconventional well.									
2226496	12/3/13	Incident-Response to Accident or Event	081-20334	Violation(s) Noted	684539	402CSL - Failure to adopt pollution prevention measures required or prescribed by DEP by handling materials that create a danger of pollution.	y	produced water	not reported	well pad	not reported	not reported	assuming yes, due to lack of violation	not reported	not reported

2226496	12/3/13	Incident-Response to Accident or Event	081-20334	Violation(s) Noted	684540	78.54 - Failure to properly control or dispose of industrial or residual waste to prevent pollution of the waters of the Commonwealth.	y	produced water	not reported	well pad	not reported	not reported	assuming yes, due to lack of violation	not reported	not reported
2226496	12/3/13	Incident-Response to Accident or Event	081-20334	Violation(s) Noted	684541	78.57 - Failure to post pit approval number	y	produced water	not reported	well pad	not reported	not reported	assuming yes, due to lack of violation	not reported	not reported
2226496	12/3/13	Incident-Response to Accident or Event	081-20334	Violation(s) Noted	684542	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	produced water	not reported	well pad	not reported	not reported	assuming yes, due to lack of violation	not reported	not reported
2226513	11/7/13	Incident-Response to Accident or Event	015-20432	Violation(s) Noted	684548	402CSL - Failure to adopt pollution prevention measures required or prescribed by DEP by handling materials that create a danger of pollution.	y	flowback	not reported	flowback tanks and containment, middle western side of well pad	10 - 15 gallons	not reported	no	not reported	13 days
2226513	11/7/13	Incident-Response to Accident or Event	015-20432	Violation(s) Noted	684546	78.54 - Failure to properly control or dispose of industrial or residual waste to prevent pollution of the waters of the Commonwealth.	y	flowback	not reported	flowback tanks and containment, middle western side of well pad	10 - 15 gallons	not reported	no	not reported	13 days
2226513	11/7/13	Incident-Response to Accident or Event	015-20432	Violation(s) Noted	684545	91.33A - Failure to notify DEP of pollution incident. No phone call made forthwith	y	flowback	not reported	flowback tanks and containment, middle western side of well pad	10 - 15 gallons	not reported	no	not reported	13 days
2226513	11/7/13	Incident-Response to Accident or Event	015-20432	Violation(s) Noted	684547	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	flowback	not reported	flowback tanks and containment, middle western side of well pad	10 - 15 gallons	not reported	no	not reported	13 days
2227705	12/9/13	Incident-Response to Accident or Event	019-22067	Violation(s) Noted	684780	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y, but unclear	not reported	not reported	not reported	not reported	not reported	assuming yes, due to lack of violation	not reported	not reported
2227843	11/7/13	Routine/Complete Inspection	015-20416	Viol(s) Noted & Immediately Corrected	684798	78.54 - Failure to properly control or dispose of industrial or residual waste to prevent pollution of the waters of the Commonwealth.	y	not reported	not reported	edge of well pad	not reported	not reported	assuming no, routine inspection	not reported	not reported

2227843	11/7/13	Routine/Complete Inspection	015-20416	Viol(s) Noted & Immediately Corrected	684799	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	not reported	not reported	edge of well pad	not reported	not reported	assuming no, routine inspection	not reported	not reported
2228472	11/19/13	Administrative/File Review	125-24322	Viol(s) Noted & Immediately Corrected	684918	OGA 3222(B) - Failure to submit well record / completion report.									
2228481	11/19/13	Administrative/File Review	125-24198	Viol(s) Noted & Immediately Corrected	684923	OGA 3222(B) - Failure to submit well record / completion report.									
2228498	11/19/13	Administrative/File Review	125-24307	Viol(s) Noted & Immediately Corrected	684935	OGA 3222(B) - Failure to submit well record / completion report.									
2228501	11/19/13	Administrative/File Review	125-24199	Viol(s) Noted & Immediately Corrected	684936	OGA 3222(B) - Failure to submit well record / completion report.									
2228504	11/19/13	Administrative/File Review	125-24201	Viol(s) Noted & Immediately Corrected	684937	OGA 3222(B) - Failure to submit well record / completion report.									
2228509	11/19/13	Administrative/File Review	125-24200	Viol(s) Noted & Immediately Corrected	684941	OGA 3222(B) - Failure to submit well record / completion report.									
2229637	12/13/13	Routine/Complete Inspection	015-21850	Violation(s) Noted	685263	OGA 3216(C) - Failure to fill all pits used to contain produced fluids or industrial wastes and remove unnecessary drilling supplies/equipment not needed for production within 9 months from completion of drilling of well.									
2229721	12/14/13	Incident-Response to Accident or Event	051-23573	Violation(s) Noted	685274	78.55 - No Control and Disposal/PPC plan or failure to implement PPC plan	y	brine	not reported	not reported	not reported	not reported	yes, but phone wasn't answered	Defective selinoid switch	not reported
2229721	12/14/13	Incident-Response to Accident or Event	051-23573	Violation(s) Noted	685273	91.34A - Failure to take all necessary measures to prevent spill. Inadequate diking, potential pollution	y	brine	not reported	not reported	not reported	not reported	yes, but phone wasn't answered	Defective selinoid switch	not reported
2229745	12/16/13	Routine/Partial Inspection	113-20165	Viol(s) Noted & Immediately Corrected	685288	OGA 3211(H) - Failure to install, in a permanent manner, the permit number on a completed well.									
2230284	12/13/13	Administrative/File Review	081-20292	Violation(s) Noted	685426	OGA 3220(A) - Failure to plug the well upon abandoning it.									

2230643	12/12/13	Routine/Complete Inspection	047-24541	Violation(s) Noted	685473	OGA 3220(A) - Failure to plug the well upon abandoning it.											
2230643	12/12/13	Routine/Complete Inspection	047-24541	Violation(s) Noted	685475	OGA 3222(A) - Failure to submit annual conventional well production report.											
2230668	12/12/13	Routine/Complete Inspection	047-24537	Violation(s) Noted	685478	OGA 3220(A) - Failure to plug the well upon abandoning it.											
2230668	12/12/13	Routine/Complete Inspection	047-24537	Violation(s) Noted	685479	OGA 3222(A) - Failure to submit annual conventional well production report.											
2231054	12/19/13	Routine/Complete Inspection	015-21941	Viol(s) Noted & Immediately Corrected	687051	402CSL - Failure to adopt pollution prevention measures required or prescribed by DEP by handling materials that create a danger of pollution.											
2231054	12/19/13	Routine/Complete Inspection	015-21941	Viol(s) Noted & Immediately Corrected	687049	78.57 - Failure to post pit approval number											
2231054	12/19/13	Routine/Complete Inspection	015-21941	Viol(s) Noted & Immediately Corrected	687052	OGA3218.2(A) - Failure to design and construct unconventional well site to prevent spills to the ground surface and off well site.											
2231054	12/19/13	Routine/Complete Inspection	015-21941	Viol(s) Noted & Immediately Corrected	687050	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.											
2231260	11/5/13	Plugging(Includes Plugged/Mined Through)	081-20560	Violation(s) Noted	685608	OGA 3220(C) - Failure to notify DEP, the coal operator, lessee and owner prior to plugging a well and submit a plat.											
2231474	12/23/13	Administrative/File Review	115-20565	Viol(s) Noted & Immediately Corrected	685627	402CSL B - Failure to meet requirements of permit, rules and regulations, or order of DEP.	y	produced water	not reported	not reported	20 gallons	not reported	yes	The failure of a GPU associated with their Tegdick 18H well.	not reported, full report provided 7 days later		
2232599	12/31/13	Administrative/File Review	005-30888	Viol(s) Noted & Immediately Corrected	685864	OGA 3222(B) - Failure to submit well record / completion report.											
2232701	12/30/13	Administrative/File Review	063-36304	Viol(s) Noted & Immediately Corrected	685871	78.65(3) - Failure to submit or submitting an inadequate well site restoration report within 60 days of restoration of the well site											
2232706	12/30/13	Administrative/File Review	063-36827	Viol(s) Noted & Immediately Corrected	685872	78.65(3) - Failure to submit or submitting an inadequate well site restoration report within 60 days of restoration of the well site											

2232714	12/30/13	Administrative/Field Review	129-28045	Viol(s) Noted & Immediately Corrected	685876	78.65(3) - Failure to submit or submitting an inadequate well site restoration report within 60 days of restoration of the well site									
2232719	12/30/13	Administrative/Field Review	129-28357	Viol(s) Noted & Immediately Corrected	685878	78.65(3) - Failure to submit or submitting an inadequate well site restoration report within 60 days of restoration of the well site									
2232722	12/30/13	Administrative/Field Review	129-28358	Viol(s) Noted & Immediately Corrected	685879	78.65(3) - Failure to submit or submitting an inadequate well site restoration report within 60 days of restoration of the well site									
2232727	12/30/13	Administrative/Field Review	129-28488	Viol(s) Noted & Immediately Corrected	685880	78.65(3) - Failure to submit or submitting an inadequate well site restoration report within 60 days of restoration of the well site									
2234152	12/12/13	Drilling/Alteration	065-27045	Violation(s) Noted	686116	402CSL - Failure to adopt pollution prevention measures required or prescribed by DEP by handling materials that create a danger of pollution.									
2235359	12/13/13	Incident-Response to Accident or Event	007-20360	Violation(s) Noted	686464	78.54 - Failure to properly control or dispose of industrial or residual waste to prevent pollution of the waters of the Commonwealth.	y	crosslink fluid	not reported	40 barrels on containment, 40 on well pad	65 barrels per minute, total of 80 barrels.	not reported	yes	Weatherford Fracturing Technologies had a chickson (iron failure) on one of the risers to the wellhead fail while pumping crosslink fluid on 2ppg sand for stage 15 @ 8200 - 8300 psi at approximately 2330 on December 12, 2013. The failed part was rated at 10,000 psi and had recently been inspected.	not reported
2245374	7/11/13	Administrative/Field Review	129-28611	Viol(s) Noted & Immediately Corrected	688833	208A - Failure to restore a water supply affected by pollution or diminution									
2245762	12/16/13	Incident-Response to Accident or Event	115-21263	Violation(s) Noted	688893	401 CSL - Discharge of pollutional material to waters of Commonwealth.	y	flowback	not reported	well pad	50 - 75 barrels	not reported	assuming yes, due to lack of violation	A valve was not locked on the tank as it was in the process of being filled.	not reported
2245762	12/16/13	Incident-Response to Accident or Event	115-21263	Violation(s) Noted	688895	78.56(1) - Pit and tanks not constructed with sufficient capacity to contain pollutional substances.	y	flowback	not reported	well pad	50 - 75 barrels	not reported	assuming yes, due to lack of violation	A valve was not locked on the tank as it was in the process of being filled.	not reported

2245762	12/16/13	Incident-Response to Accident or Event	115-21263	Violation(s) Noted	688894	91.34A - Failure to take all necessary measures to prevent spill. Inadequate diking, potential pollution	y	flowback	not reported	well pad	50 - 75 barrels	not reported	assuming yes, due to lack of violation	A valve was not locked on the tank as it was in the process of being filled.	not reported
2245762	12/16/13	Incident-Response to Accident or Event	115-21263	Violation(s) Noted	688899	OGA3218.2(A) - Failure to design and construct unconventional well site to prevent spills to the ground surface and off well site.	y	flowback	not reported	well pad	50 - 75 barrels	not reported	assuming yes, due to lack of violation	A valve was not locked on the tank as it was in the process of being filled.	not reported
2245762	12/16/13	Incident-Response to Accident or Event	115-21263	Violation(s) Noted	688897	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.	y	flowback	not reported	well pad	50 - 75 barrels	not reported	assuming yes, due to lack of violation	A valve was not locked on the tank as it was in the process of being filled.	not reported
2248496	5/10/13	Follow-up Inspection	131-20193	Violation(s) Noted	689532	78.86 - Failure to report defective, insufficient, or improperly cemented casing w/in 24 hrs or submit plan to correct w/in 30 days									
2248502	5/10/13	Follow-up Inspection	131-20219	Violation(s) Noted	689533	78.86 - Failure to report defective, insufficient, or improperly cemented casing w/in 24 hrs or submit plan to correct w/in 30 days									
2248725	2/24/13	Administrative/File Review	059-25283	Viol(s) Noted & Immediately Corrected	689590	212CMPLRPT - Failure to submit completion report within 30 days of completion of well									

¹ Our tally of violations differed slightly from metadata generated when the system is queried (metadata = 523, our total = 543). In several instances, PADEP documentation of violations was unclear, and we had to infer information. When a spill was not clearly described, we assumed a spill occurred if the inspection type was listed as ‘incident response’ and the corresponding violation suggested a pollution event. In the case of terrestrial spills, entry of pollutants into freshwater systems was not considered to have occurred unless specifically noted. Finally, we assumed that industry reported a spill if the inspection type was listed as ‘incident response’ and no reporting violations was issued to the company. Correspondingly, we assumed that well operators did not report a spill when spills were discovered during a PADEP-initiated inspection.

² Spills are unique to each inspection ID, not each Violation ID; thus, spill information is repeated in this list for each inspection ID. Tallies in-text refer to spill quantification for each unique inspection.

WebTable 3. Chemical composition information, reported via FracFocus for 50 randomly chosen wells from the selection of over 2000 registered wells from three top-producing states of shale gas and tight oil (Texas, Pennsylvania, North Dakota) available in the database.

State	API Number ¹	Total number of ingredients ²	Number of proprietary components ³	Number of disclosed ingredients without CAS number or concentration information	Number of proprietary components or disclosed ingredients without info ⁴	Total water volume (gal)	Total water volume (liters)	Produced water	Percent produced water
PA	37-033-26960	25	2	0	2	4,211,634	15,941,035	0	0
PA	37-125-24582	9	0	0	0	3,448,837	13,053,848	0	0
PA	37-059-25702	11	0	0	0	3,944,640	14,930,462	0	0
PA	37-117-21319	25	6	3	9	2,212,896	8,375,811	0	0
PA	37-125-24501	9	0	0	0	5,092,031	19,273,337	0	0
PA	37-115-20679	15	0	0	0	5,599,608	21,194,516	Yes	Not provided
PA	37-115-20494	26	0	0	0	999,410	3,782,767	Unclear	Unclear
PA	37-005-31028	22	5	0	5	157,734	597,023	0	0
PA	37-115-20872	45	1	11	12	5,540,766	20,971,799	Yes	12.96
PA	37-125-24452	9	0	0	0	4,672,845	17,686,718	0	0
PA	37-117-21191	24	6	4	10	3,963,960	15,003,589	0	0
PA	370-152-1832	19	0	3	3	1,128,834	4,272,637	Yes	21.4
PA	37-081-20374	39	8	5	13	2,618,006	9,909,153	0	0
PA	37-123-46830	19	0	0	0	Not provided	Not provided	0	0
PA	37-081-20643	14	2	0	2	9,001,566	34,070,927	0	0
PA	37-081-20653	37	8	5	13	6,397,128	24,213,129	0	0
PA	37-015-21640	12	0	2	2	4,927,208	18,649,482	Yes	30.7
PA	37-115-20783	41	9	0	9	3,900,288	14,762,590	0	0
PA	37-015-21727	15	0	0	0	6,167,280	23,343,155	Yes	Not provided
PA	37-125-24391	9	0	0	0	4,416,996	16,718,330	0	0
PA	37-115-20490	35	6	3	9	5,150,460	19,494,491	0	0
PA	37-081-20510	23	0	1	1	1,899,690	7,190,327	0	0
PA	37-115-20651	35	6	3	9	5,242,314	19,842,158	0	0
PA	37-117-21363	17	0	0	0	3,135,888	11,869,336	Yes	Not provided
PA	370-152-1722	19	0	3	3	2,897,412	10,966,704	Yes	25.7
PA	37-129-28475	20	3	5	8	7,744,404	29,312,569	0	0
PA	37-081-20576	27	6	0	6	4,517,341	17,098,136	0	0
PA	37-063-37136	14	0	5	5	4,085,180	15,462,406	0	0
PA	370-152-0973	15	1	1	2	3,301,031	12,494,402	0	0
PA	370-592-4682	14	0	1	1	2,498,286	9,456,013	0	0
PA	37-115-20608	9	0	0	0	937,482	3,548,369	0	0
PA	37-033-27000	24	2	7	9	2,056,992	7,785,715	0	0
PA	37-117-21230	16	0	0	0	3,318,546	12,560,697	Yes	Not provided
PA	37-115-20637	19	4	0	4	438,144	1,658,375	0	0
PA	370-152-1815	17	0	4	4	5,955,516	22,541,628	Yes	24.4
PA	371-252-4283	9	0	0	0	2,650,974	10,033,937	0	0

PA	37-117-20850	24	6	3	9	2,916,570	11,039,217	0	0
PA	37-081-20320	14	2	0	2	6,927,370	26,220,095	0	0
PA	370-152-1554	30	0	0	0	5,625,984	21,294,349	Yes	14.8
PA	37-115-20484	19	4	1	5	8,276,016	31,324,721	Not provided	Not provided
PA	3701521850	17	0	3	3	5,782,854	21,888,102	Yes	18.7
PA	37-035-21202	21	0	1	1	2,602,467	9,850,338	Not provided	Not provided
PA	3711520498	11	0	1	1	5,669,916	21,460,632	Yes	10.6
PA	3711520429	19	0	3	3	4,551,918	17,229,010	Yes	15.3
PA	37-081-20186	14	2	0	2	4,363,870	16,517,248	0	0
PA	37-081-20583	27	6	0	6	5,521,986	20,900,717	0	0
PA	37-125-24306	9	0	0	0	3,750,996	14,197,520	0	0
PA	37-051-24421	13	0	1	1	3,222,418	12,196,852	0	0
PA	37-081-20738	27	6	0	6	5,045,197	19,096,071	0	0
PA	37-033-27003	24	2	7	9	3,049,242	11,541,381	0	0
ND	3300701656	26	3	0	3	1,412,253	5,345,378	0	0
ND	3302300756	29	6	4	10	959,670	3,632,351	0	0
ND	3302300761	32	5	16	21	806,238	3,051,611	0	0
ND	3302501483	28	0	0	0	2,325,021	8,800,204	Unclear (mix water)	Unclear (mix water)
ND	3305303664	27	2	0	2	2,877,020	10,889,521	0	0
ND	3305303763	27	2	0	2	3,248,977	12,297,378	0	0
ND	3305303857	30	0	0	0	2,738,780	10,366,282	Unclear (mix water)	Unclear (mix water)
ND	3306101465	19	0	0	0	1,562,915	5,915,633	0	0
ND	3306101844	20	0	0	0	1,840,778	6,967,345	0	0
ND	3306101928	29	0	0	0	2,072,594	7,844,768	Unclear (mix water)	Unclear (mix water)
ND	3306101956	52	11	17	28	2,599,753	9,840,065	0	0
ND	3310501944	25	2	0	2	1,286,256	4,868,479	0	0
ND	3310502394	31	2	0	2	3,602,200	13,634,327	0	0
ND	3310502428	27	0	0	0	2,178,991	8,247,481	Unclear (mix water)	Unclear (mix water)
ND	3310502459	39	7	12	19	2,659,138	10,064,837	0	0
ND	3310502468	52	11	17	28	3,317,469	12,556,620	0	0
ND	3310502502	36	8	8	16	2,679,168	10,140,651	0	0
ND	33-007-01714	20	0	3	3	2,427,823	9,189,310	0	0
ND	33-023-00802	32	1	2	3	1,350,434	5,111,393	0	0
ND	33-023-00811-00-00	38	4	0	4	1,486,716	5,627,220	0	0
ND	33-025-00757	52	7		7	1,103,307	4,176,017	0	0
ND	33-025-00907	21	10	2	12	2,516,255	9,524,025	0	0
ND	33-025-01527	43	6	0	6	1,317,960	4,988,479	0	0
ND	33-025-01552	22	9	2	11	2,188,321	8,282,795	0	0
ND	33-025-01561	46	7	0	7	1,954,428	7,397,510	0	0
ND	33-053-03603	38	3	9	12	5,036,934	19,064,795	0	0
ND	33-053-03612	24	5	2	7	2,895,085	10,957,897	0	0
ND	33-053-03671	21	0	1	1	1,869,105	7,074,562	0	0
ND	33-053-03840	32	6	0	6	Reported "0"	Reported "0"	0	0

ND	33-053-03918	28	2	2	4	1,739,176	6,582,781	0	0
ND	33-061-01511	20	10	2	12	1,552,362	5,875,690	0	0
ND	33-061-01719	22	10	2	12	1,381,711	5,229,776	0	0
ND	330-610-1804	19	0	0	0	2,878,461	10,894,975	0	0
ND	33-061-01830	20	2	1	3	1,238,764	4,688,722	0	0
ND	33-061-01898	52	11	0	11	2,813,873	10,650,509	0	0
ND	33-061-01914	46	14	1	15	991,828	3,754,069	0	0
ND	330-610-2006	44	2	0	2	2,562,064	9,697,412	Unclear (mix water)	Unclear (mix water)
ND	33-061-02017	62	16	13	29	2,068,496	7,829,257	0	0
ND	33-105-01624	18	6	0	6	620,340	2,347,987	0	0
ND	33-105-02206	64	11	25	36	1,996,937	7,558,407	0	0
ND	33-105-02259	52	11	17	28	3,056,106	11,567,361	0	0
ND	33-105-02319-00-00	28	3	0	3	2,203,320	8,339,566	0	0
ND	33-105-02331	33	15	0	15	2,845,748	10,771,156	0	0
ND	33-105-02359	28	11	0	11	3,073,476	11,633,107	0	0
ND	33-105-02383-00-00	50	11	0	11	55,378	209,606	0	0
ND	33-105-02384	26	0	1	1	2,467,752	9,340,441	0	0
ND	33-105-02452	36	7	1	8	2,316,829	8,769,198	0	0
ND	33-105-02535	53	12	17	29	3,321,250	12,570,931	0	0
ND	33-105-02599	26	0	1	1	2,295,084	8,686,893	0	0
ND	33-105-02975	30	1	1	2	2,700,096	10,219,863	0	0
TX	4250135885	46	13	9	22	70,865	268,224	Not provided	Not provided
TX	42-483-33319-00-00	66	17	0	17	6,192,018	23,436,788	Not provided	Not provided
TX	42-251-34067	24	1	0	1	3,665,088	13,872,358	Not provided	Not provided
TX	42-135-41340	52	14	2	16	217,476	823,147	Not provided	Not provided
TX	42-177-32327	38	4	2	6	4,332,720	16,399,345	Not provided	Not provided
TX	4243936231	19	4	0	4	2,256,962	8,542,601	Not provided	Not provided
TX	42-003-43134	22	0	1	1	1,214,111	4,595,410	Not provided	Not provided
TX	42-177-32353	50	10	2	12	3,876,726	14,673,408	Not provided	Not provided
TX	42-121-34182	27	7	0	7	3,339,420	12,639,705	Not provided	Not provided
TX	4236537802	20	1	1	2	982,921	3,720,356	Not provided	Not provided
TX	42-135-03508	21	1	1	2	3,983	15,076	Not provided	Not provided
TX	42-311-34617	50	10	2	12	4,807,782	18,197,455	Not provided	Not provided
TX	42-173-34540	54	11	15	26	844,032	3,194,661	Not provided	Not provided
TX	42-127-34231	14	3	0	3	4,712,610	17,837,229	Not provided	Not provided
TX	42-003-43114	33	4	4	8	80,346	304,110	Not provided	Not provided
TX	42-483-33294	26	10	0	10	5,988,925	22,668,081	Not provided	Not provided
TX	42-461-37682	25	0	1	1	1,262,151	4,777,242	Not provided	Not provided
TX	42-383-37551	61	11	17	28	948,402	3,589,702	Not provided	Not provided
TX	4216333522	37	0	0	0	6,556,116	24,814,899	Not provided	Not provided
TX	42-295-33716	13	0	0	0	1,664,202	6,299,005	Not provided	Not provided
TX	42-003-42924	24	0	1	1	1,413,310	5,349,378	Not provided	Not provided
TX	42-003-43588	63	16	13	29	1,243,452	4,706,466	Not provided	Not provided

TX	42-389-32941	51	14	3	17	138264	523,329	Not provided	Not provided
TX	4212734323	35	0	1	1	4,904,214	18,562,450	Not provided	Not provided
TX	42-439-35746	20	6	0	6	7,023,839	26,585,231	Not provided	Not provided
TX	42-003-43832	20	4	2	6	82,530	312,376	Not provided	Not provided
TX	42-003-42923	25	1	1	2	972,393	3,680,508	Not provided	Not provided
TX	42-013-34452	54	10	2	12	3,394,104	12,846,684	Not provided	Not provided
TX	42-003-35929	15	0	0	0	120,414	455,767	Not provided	Not provided
TX	42-173-33897	27	7	0	7	691,236	2,616,328	Not provided	Not provided
TX	42-383-36949	31	2	3	5	1,040,004	3,936,415	Not provided	Not provided
TX	42-317-36510-00-00	28	4	0	4	1,444,993	5,469,299	Not provided	Not provided
TX	42-115-33450	51	11	10	21	1,470,840	5,567,129	Not provided	Not provided
TX	42-479-41536	15	3	0	3	4,644,502	17,579,440	Not provided	Not provided
TX	42-501-35157	33	0	4	4	86,604	327,796	Not provided	Not provided
TX	4250135862	18	1	0	1	73,390	277,781	Not provided	Not provided
TX	4210932405	30	1	5	6	549,548	2,080,039	Not provided	Not provided
TX	42-335-35525	10	4	0	4	16,842	63,747	Not provided	Not provided
TX	42-005-30393	19	0	0	0	11,036,508	41,773,183	Not provided	Not provided
TX	42-173-34551	40	1	1	2	1,459,739	5,525,112	Not provided	Not provided
TX	4212734163	25	8	0	8	4,821,432	18,249,120	Not provided	Not provided
TX	4247535921	36	0	1	1	1,630,608	6,171,851	Not provided	Not provided
TX	42-479-41507	15	3	0	3	1,685,292	6,378,830	Not provided	Not provided
TX	42-331-34145	1	0	0	0	16,000	60,560	Not provided	Not provided
TX	42-461-37710	37	4	9	13	992,040	3,754,871	Not provided	Not provided
TX	42-173-33538	20	1	1	2	270,456	1,023,676	Not provided	Not provided
TX	4228332410	48	2	22	24	4,833,276	18,293,950	Not provided	Not provided
TX	4222736622	38	2	0	2	549,457	2,079,695	Not provided	Not provided
TX	42-475-35953	52	13	2	15	205338	777,204	Not provided	Not provided
TX	4213535166	28	5	22	27	64,199	242,993	Not provided	Not provided

¹ Chemical information was retrieved using the FracFocus registry's "Find a Well" search feature (<http://www.fracfocusdata.org/DisclosureSearch/>) for top-producing states of shale gas and tight oil (i.e., Texas, Pennsylvania, North Dakota) for which a substantial amount of information (>500 wells) was available in the registry. This search feature returns a maximum of 2,000 results (20 results per page). For each state, 50 wells with project start dates after 1 Jan 2012 were evaluated. Wells were chosen randomly using the random number generator in Microsoft Excel.

² Water was counted as an ingredient when it was listed.

³ Proprietary components were those with ingredients, concentrations, or chemical abstract service numbers described as "proprietary", "proprietary component", "confidential business information", "trade secret", "undisclosed", "T.S.", or "C.B.I."

⁴ Disclosed chemicals without concentration information or a CAS number included those with this field left blank or listed as "ND", "Not Available", "Not Provided", "Unavailable", "Mixture", "N/A", "other", or "non-hazardous", and excluded water or produced water.