ENFORM
The Safety Association for Canada's Upstream Oil and Gas Industry

Alberta

CAPP
CANADIAN ASSOCIATION OF PETROLEUM PRODUCERS

PARTNERS IN PROTECTION

FireSmart® Field Guide for Upstream Oil and Gas Industry

Wild Fire Risk Assessment Worksheet

RELEASED » **2012**

Prepared for Canadian Petroleum Producers and Alberta Sustainable Resource Development

By industry, for industry

35 YEARS CAGC Prosper Together, Falter Alone

CAODC

CAPP
CANADIAN ASSOCIATION OF PETROLEUM PRODUCERS

CEPA
Canadian Energy Pipeline Association
Association canadienne de pipelines d'énergie

PSAC
Petroleum Services Association of Canada

sepac
Canada's Oil & Gas Entrepreneurs

WILD FIRE RISK ASSESSMENT WORKSHEET

Facility Name _____ Location _____

Date _____ Completed by _____

Table A: Structural Assessment			
1. Roofing Material	Metal, tile, asphalt, or non-combustible material 0		Wood 20
2. Building Exterior	Non-combustible concrete or metal siding 0		Wood or vinyl siding 10
3. Eves, vents and openings	No eaves, vents are screened and opening is turned down 0		Open eaves, unscreened vents can trap embers 5
4. Loading docks/decks base enclosed	None or fire resistant material sheathed in 0	Combustible material sheathed in 2	Combustible material not sheathed in 5
5. Location of petroleum products and combustibles	None or >10 metres from structures 0	3-10 metres from structure 5	<3 metres from structure 10
Combined Points 1-5	**Low 0-2**	**Moderate 3-20**	**High 21+**

Table B: Flammable Storage Material Assessment			
1. Hydrocarbon Storage onsite	Absent 0		Present 10
2. Tank tops	Top cone shaped, vents turned down, will not trap embers at vents and openings 0		Flat top, vents open, can trap embers at vents and openings 20
3. Distance from forest vegetation	Structure within 20 to 30 metres of forest 0	Structure within 10 to 20 metres of forest 10	Structure within 10 metres of forest 20
4. Propane tanks	Vegetation within 10 to 20 metres of tank 0	Vegetation within 3 to 10 metres of tank 10	Vegetation within 3 metres of tank 20
Combined Points 1-4	**Low 0-10**	**Moderate 11-19**	**High 20+**

Table C: On-Site Vegetation on the Disposition			
1. Site Vegetation	None or >10 metres from structures 0	3-10 metres from structure 5	<3 metres from structure 10
Total Points	**Low 0**	**Moderate 5**	**High 10**

Table D: Location of Structures on the Disposition Assessment			
1. Distance from Forest Vegetation	Structure within 20 to 30 metres of forest 0	Structure within 10 to 20 metres of forest 10	Structure within 10 metres of forest 20
Total Points	**Low 0**	**Moderate 10**	**High 20**

Table E: Slope Assessment			
1. Slope Impact	Structures greater than 100 metres from crest of slope 0	Structures less than 100 metres from crest of slope **5**	
2. Position of disposition and structures on slope	Base of slope (areas of development on flat ground or valley bottoms, extending as high as one-third of the way up the slope) 0	Mid slope (areas of development on slopes with forested areas or grasslands below, extending as high as midway up the slope) 5	Upper slope (areas of development located on the top half or crest of slopes with forested areas or grasslands below them) 10
Combined Points 1-2	**Low 0**	**Moderate 10**	**High 15**

Table F: Flaring Assessment				
1. Flare stack/flare pit/flare tank	Area around flare stack is free of trees and woody debris for 30 metres. Remove and clear to bare mineral soil. Yes = 0 or No = 10	Cleared, bare mineral soil surface extends at least 8 metres around flare pit/ flare tank Yes = 0 or No = 10	Total Points	
			Low	**0**
			Moderate	**10**
			High	**20**

Table G: Powerline Assessment						
1. Powerline	If owner, has a powerline hazard assessment plan been completed? Yes = 0 or No = 5	Do you have a back up power supply in case power is cut off? Yes = 0 or No = 5	Is there adequate distance between the powerline and adjacent trees (a distance greater than the fall arch of the tree)? Yes = 0 or No = 5	Has there been adequate removal of all hazard trees? Yes = 0 or No = 5	Has the surface vegetation been maintained to avoid wicking? Yes = 0 or No = 5	Total Points
						Low **0**
						Moderate **5-10**
						High **15-20**

Table H: Vegetation Flammability Assessment							
1. Fuel Types	Deciduous (leafed)		Mixedwood (needle/leafed)			Coniferous (needled)	
	Young (0-70yrs	Old (70+yrs)	<30% Coniferous Composition	30-70% Coniferous Composition	>70% Coniferous Composition	Trees well spaced/ separated	Trees have no space/ all touching
	3	10	5	10	15	10	20
2. Surface Vegetation	Grass (O1) or Shrubs		Adjacent logging debris from clearing			Forest Stand Dead and Down Woody Material	
	Standing	Matted	Light	Moderate	Heavy	Scattered	Abundant
	5	10	5	10	25	10	20
3. Ladder Fuels	Absent 0		Scattered 5			Abundant 10	
Combined Points 1-3 (Quadrant 1)	**Low 0-15**		**Moderate 16-30**			**High 31+**	
Combined Points 1-3 (Quadrant 2)	**Low 0-15**		**Moderate 16-30**			**High 31+**	
Combined Points 1-3 (Quadrant 3)	**Low 0-15**		**Moderate 16-30**			**High 31+**	
Combined Points 1-3 (Quadrant 4)	**Low 0-15**		**Moderate 16-30**			**High 31+**	

Table I: Personnel Safety Assessment							
1. On-site personnel	Number of personnel on daily work shift	Number of personnel on daily work shift	Number of personnel on daily work shift	Number of personnel on daily work shift	Number of personnel on daily work shift	Total Points	
	0-5	6-25	26-50	51-100	>100	**Low**	**0-5**
	0	5	10	15	20	**Moderate**	**10-15**
						High	**20**

Table J: Evacuation Routes and Plans Assessment			
1. Employee Safety	Evacuation routes (road access) identified? One or more two-way routes/ access = 0 No two-way routes/access = 10 Isolated access (remote site with no road access) = 15	Temporary safety areas identified? Yes = 0 or No = 5	Helicopter landing area identified? Yes = 0 or No = 5
2. Wildfire evacuation plans	Wildfire evacuation plans in place Yes = 0 or No = 5	Employees Briefed on Wildfire Evacuation Plans Yes = 0 or No = 5	
Combined Points 1-2	**Low 0-5**	**Moderate 10-15**	**High 20-25**

Table K: Road Access and Water Source Assessment								
1. Infrastructure Access Roads	Access to facility; road surface width		Access to area through vegetation				Site ring road	
	>6.1 m	<6.1 m	Deciduous (leafed)	Grass	Mixedwood (needled/ leafed)	Coniferous (needled)	Yes	No
	0	5	1	5	5	5	0	5
2. Water supply	Hydrant service		Pits, tanks, natural source				Alternative water supply available	
	Yes		With pump and hoses		Not with pump and hoses		Yes	No
	0		0		5		10	20
Combined Points 1-2	**Low 0-10**		**Moderate 11-20**				**High 20+**	

Table L: Using Fire Safely Assessment						
1. Smoking, Cooking and warming fires, Refuse Burning	Is the site appropriate for using fire?	If using fire, is there suppression equipment on hand to avoid escape and for proper extinguishment?	If using fire, has it been properly extinguished before leaving the site?	Are you avoiding using fire during high and extreme fire danger?	Total Points	
					Low	**0**
					Moderate	**5-10**
	Yes = 0 or No = 5	Yes = 0 or No = 5	Yes = 0 or No = 5	Yes = 0 or No = 5	**High**	**15-20**

Table M: Equipment Operations Assessment							
1. Heavy equipment, light equipment and welding equipment	Is equipment parked on bare mineral soil or other non- flammable area?	Is there adequate suppression equipment supplied with the operational equipment during the fire season?	Are internal combustion engines equipped with spark arresters and mufflers in good working condition?	Has the equipment exhaust systems been cleaned on a regular basis?	Are you operating equipment during low to moderate fire danger?	Total Points	
						Low	**0**
						Moderate	**5-10**
	Yes = 0 or No = 5	Yes = 0 or No = 5	Yes = 0 or No = 5	Yes = 0 or No = 5	Yes = 0 or No = 5	**High**	**15-25**

Table N: ATV/OHV Operations						
1. ATV/OHV activity	Is an ATV/OHV being used for operations?	Is there a spark arrester on the ATV/OHV?	Is the ATV/OHV being parked on a bare mineral soil/gravel or other non combustible surface area?	Are you checking the ATV/OHV for burning material around exhaust, manifold or engine after each use to prevent the risk of starting an ATV/OHV caused wildfire?	Total Points	
	Yes = 5 or No = 0	Yes = 0 No = 5	Yes = 0 No = 10	Yes = 0 or No = 10	**Low**	**0**
					Moderate	**5-10**
					High	**15-25**

Table O: Debris Disposal Assessment				
1. Disposal of woody debris piles through burning	Woody debris piled on organic or mineral soils (holdover potential)		Winter burning- assessing risk for holdover fires using Fire Weather Index for the fall season	
	Mineral Soils	Organic Soil	Drought Code <300 (low, moderate, high) *Refer to website below	Drought Code >300 (very high or extreme) *Refer to website below
	0	10	0	10
2. Disposal of woody debris piles through burning	Woody debris piles burning inspected for extinguishment (if burned over the winter, inspected prior to the upcoming fire season			
	Extinguished	IR Scanned	Manual Check	Not Inspected
	0	3	5	20
Combined Points 1-2	**Low 0-5**	**Moderate 6-15**		**High 16+**

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