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LNFW Commission - LNF Fire Behavior & Effects Documentation March 2010, Weather, GoNoGo, Escapes Documents

2 messages

Beth Semp <happy.heart.321@gmail.com>

Tue, Sep 25, 2012 at 7:10 AM

To: LCS Lower North Fork Wildfire Commission <ntwildfirecomm@state.co.us>, ellen.roberts.senate@state.co.us, cheri.gerou.senate@state.co.us

Bcc: beth semp <happy.heart.321@gmail.com> 

Dear Madam Chair and Commissioners,

In this moment we must believe you can make an eternal difference in our lives by continuing to seek the truth about why our many families, and our hopes, plans and dreams, were lost and shattered on March 26, 2012.

There is no peace in our hearts. There was no wrong done on our part except to believe in the emergency response systems in place. Never again. There is no confidence. This legislative process has not returned it. Not one bit. It has driven us further into disbelief that appropriate and timely decisions will be made regarding managing our state's forests and protecting our precious people, their homes and families. The need is dire for proper analysis to determine Colorado's best management practices. The state's ignition of the Lower North Fork Fire on Denver Water Board's land in March provides enough negligent activities that an analysis of all available, feasible forest management tools is the least that can be done for our state at this time. We all may benefit from acting quickly. Cleaning and clearing our forests with local help and initiative could begin quickly. An emergency reverse 911 system works when it is tested and proven. We all deserve that - we pay for it monthly in our phone bills. Many operations throughout our state have changed because of the Lower North Fork Wildfire.

These can be giant changes, and I appreciate that. Enforcement of new prescribed fire requirements and permitting may begin to build our community's confidence in the state. Tests of our 911 emergency notification systems could begin to build confidence, if they worked.

If your Commission continues to investigate alternatives to prescribed fire, be assured we will listen. Local, nearby neighbors in prescribed fire locations need to be involved and informed of a burn before it happens. Notice and a public forum for information and answers will be primary to the entire confidence re-building. You understand why because you've heard us - no one received written notification.

We hear and read that change is forthcoming. Countless re-organizations, re-assignments, and shifts have occurred, with new directives everywhere. I pray our local and state governments have become immensely wiser because of the Lower North Fork Fire. We've conveyed our pain, loss and disbelief in the lack of help from the state, to you and those listening. Our voices will continue to ring true, resoundingly. We speak in honor of three awesome, caring, intelligent people who were killed by the careless actions of those setting the Lower North Fork area on fire and leaving it. You have read accounts of the first responding fire chiefs on March 26, 2012. There is more 'escaped fire' in CSFS's historical operations in the Lower North Fork area of the South Platte River valley.

Attached is a report related to the Lower North Fork Wildfire investigation which I received from the Air Pollution Control Division (APCD) in its response to a CORA request.

This March 10, 2011 Documentation Report from Dan Beveridge, CSFS FEMO (t), provides details of CSFS's observations of fire behavior and its effects during a permitted prescribed fire in Denver Water's land referred to as the Lower North Fork, during the period March 1-3, 2011, conducted under an APCD Broadcast Prescribed Fire Permit GOS-11-190 from CSFS's Golden District of which Allen Gallamore is the District Forester.

Beveridge's report states in part, "The (prescribed fire) operation was conducted in order to provide effective anchor points for future burning, evaluate fire behavior under associated weather conditions and seasonality in

masticated and untreated fuels, and to determine smoke production from and consumption of masticated fuels."
Blacklining of approximately 3.5 acres in the LNF area Unit 1 was conducted on March 1, 2011 and in Unit 3 approximately 3.0 acres was completed on March 2, 2011. Three different escapes of the prescribed fire occurred that day in three different locations: 1) during the first hour of the ignition of unit 3; 2) during the end of the ignition period for Unit 3, and 3) during mop-up when "one small spot fire was discovered about 1/2 chain west of the hand line on the south side of the primary drainage, but (it) was quickly addressed." The author's description of each of these escapes are; "posed no major issues", "but caused no issues", and "but was quickly addressed". "Wind observations taken from lookout points were mainly from the east, ranging from calm to 5-8 mph with highest gusts reaching 18 mph on March 3/1/11. However, winds commonly experienced within the units during the burns were mainly upslope and generally light. Topographic influence on local winds in this area seems to be quite high."

The Fire Behavior & Effects Documentation provides evidence of both CSFS's and ACPD's prior knowledge of the repeated pattern of fire escaping during prescribed fires on ridges along the South Platte River. In their attempts to ignite prescribed fire on March 1 and 2, 2011, CSFS had **three** different escapes in three different locations when winds ranged from calm to 5-8 mph, with highest gusts reaching 18 mph on March 1, 2011. The memo provides many examples of problems with prescribed fire and the masticated fuel in the area, including:

- The masticated fuel bed depths were not gathered.
- No moisture values were determined for masticated fuels.
- "Unfortunately" tons/acre was not estimated in any of the available fuel types due to a lack of time and resources for estimation."
- "Topographic (redacted line) influence on local winds in this area seems to be quite high."
- There is another redacted line in the 2nd to last paragraph on page 1 - regarding the second escape wherein a few (2-3) small pockets of redacted pole-sized Douglas-fir and ponderosa pine trees torched but caused no issues.

Later in the Consumption/Severity/Other Effects section it states, "However, since the masticated fuels burned at very high temperatures for long periods of time and had, in places, accumulated within the driplines of many of the larger residual trees, the units will need to be monitored to determine if mortality from potential root death will occur," and,

- Final paragraph Transport to west (Unit 3), "Although the masticated fuels created a fair amount of smoke, production was not overly excessive and should not necessarily cause great concern over future broadcast burning of masticated units. However, it must be appreciated that many of the masticated fuels that burned during this operation appeared to have low fuel moistures and that these units were not very large."

Why is the March 2012 LNFF ever ignited? The CSFS operators who started the LNFF fire on March 22, 2012, knew first hand about previous escapes of prescribed fires in the LNFF. Common sense should have dictated that on March 22, 2012 in the driest March on record, in a valley whose difficult topography and erratic wind patterns had caused escaped slop-overs numerous times. The attached LNFF Rx Fires spreadsheet summarizes the number of attempts CSFS made to burn the LNF area under a prescribed fire plan, and escapes that occurred. The attached National Weather Service forecast for Zone COZ216 (which includes the LNF area) provided at 9:29 am on 3/21/2012, the day before the ignition of the LNF fire, shows a projected forecast for Monday March 26, 2012 that included winds of 8 to 16 mph and gusts between 13 and 26 mph. This forecast was produced by the Department of Public Safety. The LNFF's Prescribed Fire Go NoGo check list from March 22, 2012 is included. Its first questions is "Has the burn area experienced unusual drought conditions, changes in fuel conditions, or other changes that were not considered in the prescription development? - answer: "NO". These are not the answers we seek.

Will you be interviewing first responders, participants or absolutely anyone connected with implementing the LNFF in March 2012? To not do so is unjust, unfair and . To not do so means you fail to complete your charge under HB 1352. It is possible that those first responders who protect our homes and fight fires in our communities have some advice and recommendations for how Colorado can better protect its natural resources. They'd probably appreciate being asked. Can we help you any further? We will remain vigilant and hopeful. I will bring copies of this email and the attachments for your review. Thank you for your time and consideration.
peace

Lower North Fork Project
Fire Behavior & Effects Documentation
Blacklining Operations (Units 1 & 3)
March 1-3, 2011
Daniel Beveridge, FEMO(t), (3/10/11)

Outline

In early March of 2011, blackline was created on two units (1 & 3) of the Lower North Fork project area on Denver Water Board land near Foxton, CO. The operation was conducted in order to provide effective anchor points for future burning, evaluate fire behavior under associated weather conditions and seasonality in masticated and untreated fuels, and to determine smoke production from and consumption of masticated fuels.

Work was completed primarily by CSFS staff (Golden and Fort Collins districts) with some assistance from Jefferson County resources. Blackline established on unit 1 was 3.5 acres and completed on Tuesday, March 1st. Blackline established on unit 3 was 2.9 acres and completed on Wednesday, March 2nd.

The objective of highest priority was to provide for public and firefighter safety and was accomplished. Resource management objectives listed in the burn plan were generally accomplished, although all did not directly apply to the blacklining. Specific management objective accomplishment will not be covered in this document, as addressing that issue is most appropriate in a formal prescribed fire report to be completed at the project's end.

Effects Review

Fuels

Areas adjacent to roadways used as control lines (generally between 50 to 100') were masticated in 2005/2006 and provided the primary surface fuel. The masticated fuels varied in size from approximately 1x1" to approximately 4x2" with great variability. Masticated fuel bed depths were not gathered but ranges likely varied from ½" to 3 +". In many areas, masticated fuels had been eroded from hillsides and accumulated in drainage bottoms and beneath mature trees. No moisture values were determined for the masticated fuels, but 1 hour time lag fuel moistures were calculated to be 4% (1100 hrs, unit 1, 3/1/11). Needle litter remaining after mastication was also present, and in many locations helped a great deal in supporting fire spread. One location in unit 3 (approximately ½ acre) that had not been masticated was comprised mainly of pole sized Douglas-fir and ponderosa pine trees and associated litter, FM 9. Some grasses were also present, but in most areas was sparse and contributed minimally to fire spread. Unfortunately, tons/acre was not estimated in any of the available fuel types due to a lack of time and resources for estimation.

Same photo point, different camera orientation. Showing masticated fuel consumption (unit 3)

Fire Behavior

Fire behavior was primarily backing. Flanking and heading fire were both witnessed as well, but were much less and were encountered in respectively fewer instances. Rates of spread for backing and flanking fires in both masticated and litter fuels were both measured at 0.9 chains per hour. Flame lengths for backing fire in masticated fuels averaged between 12-18" and flame depths ranged from 4-6". Flanking fire flame lengths were between 6-10" and flame depths ranged from 1-2".

Approximately one hour into the burning of unit 3 (around 1200 hrs), a dust devil occurred near the west anchor point and transported embers across the fireline into nearby grasses, causing about 8 small spot fires. The fires were quickly contained and posed no major issues. Towards the end of ignitions on unit 3 (1340-1350 hrs), a few (2-3) small pockets of pole-sized Douglas-fir and ponderosa pine trees torched but caused no issues. During mop up operations on unit 3, one small spot fire was discovered about ½ chain west of the hand line on the south side of the primary drainage, but was quickly addressed.

Slopes on both units ranged from 15-30% with most areas being in the higher range. Wind observations taken from lookout points were mainly from the east, ranging from calm to 5-8 mph with highest gusts reaching

18 mph on 3/1/11. However, winds commonly experienced within the units during the burns were mainly upslope and generally light. Topographic

influence on local winds in this area seems to be quite high.

Because of the nature and arrangement of masticated fuels on site, it appeared that heading fire would be very difficult to establish in these kinds of fuels, regardless of their specific size. Once fire was established in the masticated fuels, it backed quite nicely, although slowly. It seems obvious that only backing fire would be desired in masticated fuels in order to achieve appreciable consumption.

Consumption/Severity/Other Effects

Southern aspects of both units experienced very good consumption of masticated fuels. The northern aspect of unit 1 experienced poor consumption of masticated fuels overall, due to high fuel moistures and residual snowpack. Fine fuel consumption in the untreated portion of unit 3 was fair, but consumption of 10+ hour fuels that were recently cut in preparation for the burn consumed poorly. Larger dead material including old and decaying stumps, logs, and branches in the 10+ hour size classes consumed rather well when they ignited. There were some unburned islands that remained in both units and were created by snow, high fuel moistures, and discontinuous fuels. Approximately 95% of unit 3 burned whereas approximately 65% of unit 1 burned.

Unit 3, pre and post-fire (southwest aspect)[note char height]

Overall severity of the blackline operations would be classified as low. Very few residual trees experienced any needle scorch. Charring on remaining stems was rather common and on some trees approached 50'. Average char height on residual trees was around 15'. Less than 5% of residual trees in both the masticated and untreated fuel types were clearly killed by torching or fire girdling. However, since the masticated fuels burned at very high temperatures for long periods of time and had, in places, accumulated within the driplines of many of the larger residual trees, the units will need to be monitored to determine if mortality from potential root death will occur.

Smoke

Smoke created during unit 3 operations was transported west while smoke created during unit 1 operations was transported northeast. Smoke impacts from both days of blacklining created minimal impact to commonly used, local roadways including CR 97 (Foxton Road) and the River Road to the south and east. Once ignition operations had ceased, smoke production dropped off rapidly as expected. It should be noted that there was minimal but noticeable smoke seen in valley bottoms in the North Fork of the South Platte river drainage to the east of the project area upon arrival the morning of Thursday, 3/3/11.

Transport to west (Unit 3)

Although the masticated fuels created a fair amount of smoke, production was not overly excessive and should not necessarily cause great concern over future broadcast burning of masticated units. However, it must be appreciated that many of the masticated fuels that burned during this operation appeared to have low fuel moistures and that these units were not very large.

**PRESCRIBED FIRE CONDUCTED BY CSFS ON
DENVER WATER BOARD LAND IN LOWER NORTH FORK
OF THE SOUTH PLATTE RIVER VALLEY**

		CSFS		
YEAR	DAY/MONTH	LOCATION	ACRES	PERMIT
2010	10-May			CANCELLED FRS-10-102 Weather out of Rx
2011	1-Mar	UNITS 1 & 3	3.5	ESCAPES GOS-11-190
2011	2-Mar	UNITS 1 & 3	3	ESCAPES GOS-11-190 All masticated
2011	28-Sep	UNIT 1	25	GOS-11-190
2011	4-Oct	UNIT 1	7	ESCAPES GOS-11-190
2011	13-Oct	CSFS Left Scene UNIT 4A	5	0.37a ESCAPE GOS-11-190 BEFORE CSFS LEFT
2011	15-Oct	NFFPD responds UNIT 4A	0.5	ESCAPE - Re-ignites with Wind
2011	17-Oct			CANCELLED GOS-11-190 Weather out of Rx
2011	10-Nov	10'X10' test plots UNIT 4A	0.25	Not dry enough GOS-11-190
2012	19-Mar	UNIT 4A	4,140	FATAL ESCAPE GOS-12-157 3/26/12

National Weather Service Weather Forecast Office Denver/Boulder, CO

TABULAR WEATHER FORECAST

ISSUED BY: NATIONAL WEATHER SERVICE DENVER/BOULDER, CO
 FORECAST RELEASE TIME: 9:29 AM MDT ON MAR 21, 2012
 FORECAST PERIOD: 2PM MDT MAR 21, 2012 TO 6PM MDT MAR 28, 2012
 CURRENT TIME: 234 PM UTC WED MAR 21 2012
 POINT INFORMATION: Zone Num: COZ216 Latitude: 39.427N Longitude: -105.218W Elevation: 6396FT
 LOCATIONS WITHIN 5 MILES: Foxton CO
 FIRE ZONE FWF PRODUCT: [Click Here to view the Fire Weather Narrative \(FWF\) for Zone COZ216](#)
 SUNRISE/SUNSET INFO: Sunrise: 7:03 AM MDT Sunset: 7:14 PM MDT
 GRAPHIC FORMAT: [Click Here to view Forecast Data in a Graphical Format](#)

FORECAST VALID AT (MDT)	SC	PP	CWR	TF	TD	MX RH	MX SFC	SFC	G	H	L	10K	10K	MIXG	TRAN	TRAN	VENTL	AJTV	QPF			
	%	%	%	F	F	MN %	MN WIND	WIND	S	I	A	WIND	WIND	HGT	WIND	WIND	RATE	RATG	6HRS			
				TF		RH	DIR	MPH	T	L	DIR	MPH	AGL	DIR	MPH	KT-FT		DUR				
03/21-2P	3	0	1		55	14	20	N	15	22	2	1	N	30	7300	N	25	161475	E			
03/21-3P	3	0	1		56	15	19	N	15	23	2	1	N	31	7820	N	26	176756	E			
03/21-4P	3	0	1		56	17	21	N	15	22	2	1	N	33	7233	N	26	164081	E			
03/21-5P	3	0	1		55	19	23	N	13	20	2	1	N	36	6647	N	26	151406	E			
03/21-6P	24	0	0		53	20	56	27	19	N	12	17	2	1	N	37	6060	N	26	138731	V	0.00
03/21-7P	24	0	0		49	20	31	N	10	15	2	1	N	36	4907	N	23	105955	V			
03/21-8P	24	0	0		46	19	34	N	8	8	2	1	N	35	3753	N	21	73180	G			
03/21-9P	24	0	0		44	18	34	N	7	7	2	1	NE	32	2600	N	18	40404	F			
03/21-10P	24	0	0		42	18	37	N	7	7	2	1	NE	30	2071	N	16	30888	P			
03/21-11P	24	0	0		41	18	40	NW	7	7	2	1	NE	26	1543	N	15	21371	P			
03/22-12A	29	0	0		40	18	42	NW	7	7	2	1	NE	24	1014	N	14	11854	P	0.00		
03/22-1A	29	0	0		39	18	43	NW	7	7	2	1	NE	23	817	N	13	9233	P			
03/22-2A	29	0	0		39	18	44	NW	7	7	3	1	NE	22	620	N	12	6611	P			
03/22-3A	29	0	0		38	18	44	NW	7	7	3	1	NE	22	423	NW	10	3990	P			
03/22-4A	29	0	0		39	17	42	NW	7	7	3	1	N	21	402	N	10	3722	P			
03/22-5A	29	0	0		38	17	42	NW	6	6	3	1	N	21	381	N	10	3454	P			
03/22-6A	31	5	1		38	16	38	42	44	NW	6	6	3	1	N	21	360	N	10	3185	P	0.00
03/22-7A	31	5	1		38	17	42	NW	6	6	3	1	N	23	909	N	13	12285	P			
03/22-8A	31	5	1		39	17	41	N	7	7	3	1	N	25	1457	N	15	21385	P			
03/22-9A	31	5	1		42	18	37	N	8	14	3	1	N	28	2006	N	17	30535	P			
03/22-10A	31	5	1		47	19	32	N	9	14	3	1	N	26	3024	N	18	48051	F			
03/22-11A	31	5	1		50	19	29	N	9	15	3	1	N	24	4042	N	18	65566	G			
03/22-12P	35	0	0		52	20	28	NE	9	15	3	1	N	22	5059	N	18	83081	G	0.00		
03/22-1P	35	0	0		55	20	26	NE	9	14	3	1	N	22	5222	N	17	79997	G			
03/22-2P	35	0	0		56	21	26	NE	8	13	3	1	N	21	5385	N	16	76912	G			
03/22-3P	35	0	0		56	21	26	NE	8	8	3	1	N	21	5548	N	15	73828	G			
03/22-4P	35	0	0		56	22	26	NE	7	7	3	1	N	22	5132	N	14	60544	G			
03/22-5P	35	0	0		55	22	27	NE	6	6	3	1	N	24	4716	N	12	47261	F			
03/22-6P	21	0	0		53	23	56	30	26	NE	6	6	3	1	NW	25	4299	N	9	33977	P	0.00
03/22-7P	21	0	0		50	23	35	NE	6	6	3	1	NW	24	3003	NW	8	23287	P			

03/22-8P	21	0	0	47	24	39	N	6	6	3	1	NW	23	1707	NW	7	12596	P			
03/22-9P	21	0	0	46	24	42	NW	6	6	3	1	NW	23	411	NW	6	1905	P			
03/22-10P	21	0	0	44	24	45	NW	6	6	3	1	NW	23	336	NW	6	1599	P			
03/22-11P	21	0	0	43	24	47	W	7	7	3	1	NW	24	261	W	6	1293	P			
FORECAST SC PP CWR TF TD MX RH MX SFC SFC G H L 10K 10K MIXG TRAN TRAN VENTL AJTV QPF																					
VALID AT	%	%	%	F	F	MN	%	MN	WIND	WIND	S	I	A	WIND	WIND	HGT	WIND	WIND	RATE	RATG	6HRS
(MDT)						TF	RH	DIR	MPH	T	L	DIR	MPH	AGL	DIR	MPH	KT-FT			DUR	
03/23-12A	13	4	1	42	24	49	W	7	7	3	1	NW	24	185	W	6	987	P	0.00		
03/23-1A	13	4	1	41	23	48	W	7	7	3	1	NW	25	174	W	7	964	P			
03/23-2A	13	4	1	41	22	47	W	8	8	3	1	NW	24	162	W	7	941	P			
03/23-3A	13	4	1	40	21	46	W	8	13	3	1	NW	24	150	W	7	918	P			
03/23-4A	13	4	1	40	20	44	W	8	13	3	1	NW	22	145	W	7	883	P			
03/23-5A	13	4	1	40	19	44	W	8	13	3	1	NW	21	141	W	7	848	P			
03/23-6A	10	1	0	40	19	35	43	49	W	8	13	3	1	NW	18	137	W	7	813	P	0.00
03/23-7A	10	1	0	39	19	43	SW	7	7	3	1	NW	16	198	SW	6	868	P			
03/23-8A	10	1	0	42	19	40	SW	7	7	3	1	W	15	258	S	5	923	P			
03/23-9A	10	1	0	47	19	33	S	6	6	3	1	W	14	319	S	3	978	P			
03/23-10A	10	1	0	54	20	26	SE	5	5	3	1	W	15	1857	S	5	8927	P			
03/23-11A	10	1	0	58	20	23	SE	3	3	3	1	W	16	3395	SW	5	16877	P			
03/23-12P	17	1	0	61	20	21	E	2	2	3	1	SW	18	4933	SW	6	24827	P	0.00		
03/23-1P	17	1	0	66	20	17	E	2	2	3	1	SW	22	6744	SW	9	60285	G			
03/23-2P	17	1	0	67	20	16	SE	1	1	2	1	SW	25	8555	SW	12	95743	G			
03/23-3P	17	1	0	68	20	16	SE	1	1	2	1	SW	28	10365	SW	15	131201	V			
03/23-4P	17	1	0	68	20	16	SE	1	1	2	1	SW	26	8742	SW	12	97754	G			
03/23-5P	17	1	0	67	20	16	SE	2	2	2	1	SW	25	7118	SW	9	64308	G			
03/23-6P	17	2	0	64	20	70	18	16	SE	2	2	1	SW	23	5495	S	7	30861	P	0.00	
03/23-7P	17	2	0	59	20	22	SE	2	2	2	1	SW	21	3746	S	5	20716	P			
03/23-8P	17	2	0	54	21	27	S	3	3	2	1	SW	20	1998	S	3	10571	P			
03/23-9P	17	2	0	51	22	31	S	3	3	2	1	SW	18	249	SE	2	427	P			
03/23-10P	17	2	0	49	22	35	S	5	5	2	1	SW	18	221	S	3	523	P			
03/23-11P	17	2	0	47	23	39	SW	5	5	2	1	SW	20	193	SW	3	619	P			
FORECAST SC PP CWR TF TD MX RH MX SFC SFC G H L 10K 10K MIXG TRAN TRAN VENTL AJTV QPF																					
VALID AT	%	%	%	F	F	MN	%	MN	WIND	WIND	S	I	A	WIND	WIND	HGT	WIND	WIND	RATE	RATG	6HRS
(MDT)						TF	RH	DIR	MPH	T	L	DIR	MPH	AGL	DIR	MPH	KT-FT			DUR	
03/24-12A	10	2	0	46	24	42	SW	6	6	2	1	SW	21	164	SW	5	715	P			
03/24-1A	10	2	0	44	24	44	SW	7	7	2	1	SW	21	160	SW	6	774	P			
03/24-2A	10	2	0	44	24	45	SW	7	7	3	1	SW	20	155	SW	6	834	P			
03/24-3A	10	2	0	43	24	47	SW	8	8	3	1	SW	20	150	SW	7	894	P			
03/24-4A	10	2	0	43	24	47	SW	8	13	3	1	SW	20	149	SW	7	869	P			
03/24-5A	10	2	0	42	24	49	SW	8	13	3	1	SW	20	147	W	7	845	P			
03/24-6A	9	2	0	42	24	39	49	49	W	8	13	3	1	SW	20	146	W	7	820	P	
03/24-7A	9	2	0	41	24	49	SW	8	8	0	1										
03/24-8A	9	2	0	44	24	45	SW	7	7	1											
03/24-9A	9	2	0	49	24	37	SW	6	6	1											
03/24-10A	9	2	0	57	24	28	S	5	5	1											
03/24-11A	9	2	0	62	24	23	S	3	3	1											
03/24-12P	16	2	0	65	23	21	S	3	3	1											
03/24-1P	16	2	0	70	23	17	S	3	3	1											
03/24-2P	16	2	0	72	22	15	S	3	3	1											
03/24-3P	16	2	0	73	21	14	S	5	5	1											
03/24-4P	16	2	0	73	21	14	S	5	5	1											
03/24-5P	16	2	0	71	20	14	S	6	6	1											
03/24-6P	15	4	1	68	20	73	16	14	S	6	6	1									

03/24-7P	15 4	1	62 20	19	S	6	6	1
03/24-8P	15 4	1	57 20	24	S	6	6	1
03/24-9P	15 4	1	54 20	26	S	6	6	1
03/24-10P	15 4	1	51 20	29	SW	6	6	1
03/24-11P	15 4	1	49 21	33	SW	6	6	1

FORECAST SC PP CWR TF TD MX RH MX SFC SFC G H L 10K 10K MIXG TRAN TRAN VENTL AJTV QPF
VALID AT % % % F F MN % MN WIND WIND S I A WIND WIND HGT WIND WIND RATE RATG 6HRS
(MDT) TF RH DIR MPH T L DIR MPH AGL DIR MPH KT-FT DUR

03/25-12A	14 4	1	47 21	35	SW	6	6	1
03/25-1A	14 4	1	46 21	37	SW	6	6	1
03/25-2A	14 4	1	45 22	39	SW	6	6	1
03/25-3A	14 4	1	44 22	41	SW	7	7	1
03/25-4A	14 4	1	44 22	42	SW	7	7	1
03/25-5A	14 4	1	43 23	44	SW	7	7	1
03/25-6A	18 5	1	43 23	43 45 45	SW	7	7	1
03/25-7A	18 5	1	43 23	45	SW	7	7	1
03/25-8A	18 5	1	45 23	42	SW	7	7	1
03/25-9A	18 5	1	50 23	34	SW	7	7	1
03/25-10A	18 5	1	57 23	26	SW	7	7	1
03/25-11A	18 5	1	62 22	22	SW	7	7	1
03/25-12P	25 5	1	65 22	19	SW	7	7	1
03/25-1P	25 5	1	70 21	16	SW	7	7	1
03/25-2P	25 5	1	71 20	15	S	8	13	1
03/25-3P	25 5	1	72 20	14	S	8	13	1
03/25-4P	25 5	1	72 19	13	S	8	14	1
03/25-5P	25 5	1	71 18	13	S	9	14	1
03/25-6P	25 7	1	68 18	73 15 13	S	9	15	1
03/25-7P	25 7	1	62 18	18	S	9	15	1
03/25-8P	25 7	1	57 19	22	S	9	14	1
03/25-9P	25 7	1	54 19	25	SW	9	14	1
03/25-10P	25 7	1	52 20	28	SW	8	14	1
03/25-11P	25 7	1	50 21	31	SW	8	13	1

FORECAST SC PP CWR TF TD MX RH MX SFC SFC G H L 10K 10K MIXG TRAN TRAN VENTL AJTV QPF
VALID AT % % % F F MN % MN WIND WIND S I A WIND WIND HGT WIND WIND RATE RATG 6HRS
(MDT) TF RH DIR MPH T L DIR MPH AGL DIR MPH KT-FT DUR

03/26-12A	21 7	1	48 21	34	SW	8	13	1
03/26-1A	21 7	1	47 22	37	SW	8	13	1
03/26-2A	21 7	1	46 23	39	SW	8	13	1
03/26-3A	21 7	1	45 23	42	SW	8	13	1
03/26-4A	21 7	1	45 24	43	SW	8	14	1
03/26-5A	21 7	1	44 24	44	SW	9	14	1
03/26-6A	22 6	1	44 24	44 44 44	SW	9	15	1
03/26-7A	22 6	1	44 23	43	SW	10	16	1
03/26-8A	22 6	1	46 22	39	SW	10	17	1
03/26-9A	22 6	1	50 21	31	SW	12	18	1
03/26-10A	22 6	1	56 19	23	SW	13	20	1
03/26-11A	22 6	1	60 18	19	SW	13	21	1
03/26-12P	30 6	1	62 16	16	SW	14	22	1
03/26-1P	30 6	1	67 15	13	SW	15	23	1
03/26-2P	30 6	1	68 13	12	SW	15	24	1
03/26-3P	30 6	1	68 12	11	SW	16	25	1
03/26-4P	30 6	1	68 11	11	SW	16	26	1
03/26-5P	30 6	1	67 10	11	SW	16	26	1

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03/26-6P	28	7	1	64	10	68	12	11	SW	16	25	1
03/26-7P	28	7	1	58	10		15		SW	15	24	1
03/26-8P	28	7	1	53	11		19		SW	14	22	1
03/26-9P	28	7	1	50	12		21		SW	13	20	1
03/26-10P	28	7	1	48	13		24		SW	10	17	1
03/26-11P	28	7	1	45	14		28		SW	9	15	1

FORECAST SC PP CWR TF TD MX RH MX SFC SFC G H L 10K 10K MIXG TRAN TRAN VENTL AJTV QPF
VALID AT % % % F F MN % MN WIND WIND S I A WIND WIND HGT WIND WIND RATE RATG 6HRS
(MDT) TF RH DIR MPH T L DIR MPH AGL DIR MPH KT-FT DUR

03/27-12A	24	7	1	44	15		31		W	8	13	1
03/27-1A	24	7	1	43	16		33		SW	8	8	1
03/27-2A	24	7	1	42	16		35		SW	7	7	1
03/27-3A	24	7	1	41	17		37		SW	7	7	1
03/27-4A	24	7	1	41	17		37		SW	7	7	1
03/27-5A	24	7	1	40	17		38		SW	7	7	1
03/27-6A	21	6	1	40	16	39	38	38	SW	7	7	1
03/27-7A	21	6	1	39	15		37		SW	7	7	1
03/27-8A	21	6	1	41	14		33		SW	6	6	1
03/27-9A	21	6	1	45	13		27		SW	6	6	1
03/27-10A	21	6	1	50	12		21		SW	5	5	1

ELEMENT KEY:

- FORECAST VALID AT** MONTH/DAY-HOUR OF FORECAST 12-HOUR CLOCK LOCAL.
- SC** SKY COVER (PERCENT).
- PP** PROBABILITY OF PRECIPITATION (0.01 INCH OR MORE OF PRECIPITATION)(PERCENT).
- CWR** CHANCE OF WETTING RAIN (0.10 INCH OR MORE OF PRECIPITATION) (PERCENT).
- TF** TEMPERATURE (DEGREES F).
- TD** DEWPOINT TEMPERATURE (DEGREES F).
- MX/MN TF** MAXIMUM/MINIMUM TEMPERATURE (DEGREES F).
- RH** RELATIVE HUMIDITY (PERCENT).
- MAX/MN RH** MAXIMUM/MINIMUM RELATIVE HUMIDITY (PERCENT).
- SFC WIND DIR** SURFACE (10-METER) WIND DIRECTION.
- SFC WIND MPH** SURFACE (10-METER) WIND SPEED (MPH).
- GST** SURFACE (10-METER) WIND GUST (MPH).
- HI** HAINES INDEX.
- LAL** LIGHTNING ACTIVITY LEVEL.
- 10K WIND** 10000 FEET ABOVE GROUND LEVEL FREE-AIR WINDS (MPH).
- MIXG HGT** MIXING HEIGHT (FEET ABOVE GROUND LEVEL).
- TRAN WIND** TRANSPORT WINDS (MPH).
- VENTL RATE** VENTILATION RATE (KNOT-Feet).
- AJTV RATNG** SMOKE DISPERSION ADJECTIVE RATING.
- QPF 6HRS DUR** 6-HOUR PRECIPITATION ENDING AT TIME.
- SNOW 6HRS** 6-HOUR SNOWFALL AMOUNT ENDING AT TIME.
- PRIMARY WX TYPE** PRIMARY WEATHER TYPE: DISPLAYED ONLY WHEN POP GREATER THAN 40 PERCENT.

PRESCRIBED FIRE GO NO GO CHECKLIST

PROJECT:	Lower North Fork
BURN UNIT:	4
DATE BURNED:	3/22/2012

CHECKLIST ITEMS (EACH ITEM MUST BE CHECKED EITHER YES OR NO)		YES	NO
A. Has the burn area experienced unusual drought conditions, changes in fuel conditions, or other changes that were not considered in the prescription development? If NO go to item 1, if YES go to item B.			✓
B. Have the appropriate changes been made to the affected portions of the burn plan, and been approved in the Documented Changes to Approved Burn Plan form? If YES go to item 1, if NO stop.		✓	
1. Are ALL fire prescription parameters met?		✓	
2. Are ALL smoke management prescription parameters met, and/or has smoke management clearance been given for the project?		✓	
3. Has a spot weather forecast been obtained? Have all weather prescriptions parameters been met?		✓	
4. Are ALL personnel required in the Prescribed Fire Plan on site?		✓	
5. Is ALL equipment required in the Prescribed Fire Plan in place and operational?		✓	
6. Have ALL personnel been briefed on the project objectives and their assignments?		✓	
7. Has ALL pre-burn preparation work been completed?		✓	
8. Have ALL personnel been briefed on the safety hazards, communication plan, escape routes and safety zones?		✓	
9. Have ALL the required notifications been made?		✓	
10. Are the on-site resources adequate for containment under the expected conditions?		✓	
11. In your opinion, can the burn be carried out according to plan and will it meet the planned objectives?		✓	
12. Are there adequate initial attack resources available within the local or sub-geographic area?		✓	

IF ALL THE QUESTIONS ABOVE HAVE BEEN ANSWERED "YES", YOU MAY PROCEED WITH INITIATION (LIGHTING) OF THE PROJECT.

IF ANY OF THE QUESTIONS ABOVE HAVE BEEN ANSWERED "NO", YOU WILL NOT INITIATE ANY ACTION UNTIL THE APPROPRIATE CORRECTIVE ACTIONS HAVE BEEN TAKEN OR UNTIL CONDITIONS ARE MORE FAVORABLE!

The following prescribed fire personnel have verified that the "GO-NO-GO" CHECKLIST HAS BEEN MET:

SIGNATURE & PRINTED NAME	POSITION ON FIRE	DATE	TIME (24 Hour)
Kevin J. Michalak (initials)	BURN BOSS	3/22/12	11:29
Kevin E. Gorman	IGNITION SPECIALIST	3-22-12	11:29
John [unclear] (initials)	HOLDING SPECIALIST	3/22/12	11:29

1 - Repeat as needed for burning of different units or same unit on different days