

	A	4		Low beta - 2400b fill					
	A	4		Low beta - 2400b fill					
	N	4		Low beta - 2400b fill					
	N	4		Low beta - 2400b fill					
10/4/2022	15	Tuesday							
	M	4		Low beta - 2400b fill - No beam from PSB 8am -9:30am					
	M	4		Low beta - 2400b fill / LHCb partial insertion fill - 12b - Single_12b_8_8_8_2018					
	A	4		LHCb partial insertion fill - 12b - to be repeated					
	A	4		Low beta - 2400b fill - UFO 13R6 - POPS down					
	N	4		Low beta - 2400b fill - 25ns_2461b_2448_1737_1733_180bpi_16inj_1INDIV					
	N	4		Low beta - 2400b fill					
10/5/2022	16	Wednesday							
	M	4		Sector 78 trip - access for SND, QPS investigation and recovery				SPS MD	
	M	4		Precycle, BPM server down				SPS MD	
	A	4		POPS down				SPS MD	
	A	4		Low beta - 2400b fill					
	N	4		Access RB78					
	N	4		Network glitch, RF off in ramp					
10/6/2022	17	Thursday							
	M	4		LHCb partial insertion fill - 12b - Single_12b_8_8_8_2018					
	M	4		LHCb partial insertion fill - 300b - 25ns_315b_302_237_240_48bpi_11inj					
	A	4		Scraping test for BLM calibration					
	A	4		PSB vacuum leak (extraction septum R1) - no beam (access for DFBA in IP1L)				SPS no beam for 1 hour @ 14:00 = PSB vacuum leak in extraction septum ring 1	
	N	4		PSB vacuum recovery					
	N	4		PSB vacuum recovery					
10/7/2022	18	Friday							
	M	4		PSB vacuum recovery				8b4e test fill	
	M	4		SPS beam issues					
	A	4		Low beta - 2400b fill					
	A	4		Low beta - 2400b fill					
	N	4		Low beta - 2400b fill					
10/8/2022	19	Saturday							
	M	4		Access for RB.78 (EPC) and RB.56 (MPE)					
	M	4		Low beta - 2400b fill					
	A	4		Low beta - 2400b fill					
	A	4		Low beta - 2400b fill					
	N	4		POPS down					
	N	4		POPS down					
10/9/2022	20	Sunday							
	M	4		POPS down					
	M	4		POPS down					
	A	4		RF and BLM crate cooling issues					
	A	4		Low beta - 2400b fill					
	N	4		Low beta - 2400b fill					
	N	4		Low beta - 2400b fill					
10/10/2022	21	Monday							
	M	4		Low beta - 2400b fill					
	M	4		Low beta - 2400b fill - dumped for ATLAS access					
	A	4		Low beta - 2400b fill					
	A	4		Low beta - 2400b fill					
	N	4		Low beta - 2400b fill					
	N	4		Low beta - 2400b fill					
10/11/2022	22	Tuesday							
	M	4		Low beta - 2400b fill					
	M	4		Low beta - 2400b fill					
	A	4		POPS down + Electrical glitch					
	A	4		Low beta - 2400b fill - UFO					
	N	4		Low beta - 2400b fill					
	N	4		Low beta - 2400b fill					
10/12/2022	23	Wednesday							
	M	4		Access					
	M	4		Access					
	A	4		3x3b for orbit cleaning + IR3 scraping test					
	A	4		Low beta - 2400b fill					
	N	4		Low beta - 2400b fill					
	N	4		Low beta - 2400b fill					
10/13/2022	24	Thursday							
	M	4		Low beta - 2400b fill					
	M	4		Low beta - 2400b fill					
	A	4		Low beta - 2400b fill					
	A	4		Access CL heater					
	N	4		Low beta - 2400b fill					
	N	4		Low beta - 2400b fill					
10/14/2022	25	Friday							
	M	4		LINAC4 no beam					
	M	4		LINAC4 no beam					
	A	4		LINAC4 no beam					
	A	4		Low beta - 2400b fill - POPS, UPR emptyingLow beta					
	N	4		Low beta - 2400b fill					
	N	4		Low beta - 2400b fill					
10/15/2022	26	Saturday							
	M	4		Low beta - 2400b fill					
	M	4		Low beta - 2400b fill					
	A	4		Low beta - 2400b fill					
	A	4		Low beta - 2400b fill					
	N	4		Low beta - 2400b fill					
	N	4		Low beta - 2400b fill					
10/16/2022	27	Sunday							
	M	4		Low beta - 2400b fill					
	M	4		Low beta - 2400b fill					
	A	4		Low beta - 2400b fill					
	A	4		Low beta - 2400b fill					
	N	4		Low beta - 2400b fill					
	N	4		Low beta - 2400b fill					
10/17/2022	28	Monday							
	M	4		MD1 - start @ 8am					
	M	4		MD1					
	A	4		MD1					
	A	4		MD1 - IP2 BLM optics link, RD2.L1 quench heater					
	N	4		MD1 - CL on DFBLC + trip of ROD.A78B2					
	N	4		MD1 - trip of ROD.A78B2					

	A	4		Low beta - 2400b fill	SPS dedicated ion setup				
	A	4		Low beta - 2400b fill					
	N	4		Low beta - 2400b fill					
	N	4		Low beta - 2400b fill					
11/2/2022	44	Wednesday							
	M	4		Low beta - 2400b fill - ALICE polarity change to --	SPS dedicated MD				
	M	4		Low beta - 2400b fill	SPS dedicated MD				
	A	4		Low beta - 2400b fill	SPS dedicated MD				
	A	4		Low beta - 2400b fill					
	N	4		Low beta - 2400b fill					
	N	4		Low beta - 2400b fill					
11/3/2022	45	Thursday							
	M	4		Low beta - 2400b fill					
	M	4		Injection losses & beam tails tests - T12/T18					
	A	4		Injection losses & beam tails tests - T12/T18					
	A	4		Low beta - 2400b fill					
	N	4		Low beta - 2400b fill					
	N	4		Low beta - 2400b fill					
11/4/2022	46	Friday							
	M	4		SND access for emulsions from 9am (duration 5-7h)					
	M	4		Access					
	A	4		Low beta - 2400b fill - LHCb dipole OFF - dumped on vacuum due to ecloud at IR8					
	A	4		Low beta - 2400b fill - LHCb dipole back on ++					
	N	4		Low beta - 2400b fill					
	N	4		Low beta - 2400b fill					
11/5/2022	47	Saturday							
	M	4		Low beta - 2400b fill					
	M	4		Low beta - 2400b fill					
	A	4		Low beta - 2400b fill					
	A	4		Start of MD2 - ALICE dipole & sol off, LHCb dipole off					
	N	4		MD2					
	N	4		MD2					
11/6/2022	48	Sunday							
	M	4		MD2					
	M	4		MD2					
	A	4		MD2					
	A	4		MD2					
	N	4		MD2					
	N	4		MD2					
11/7/2022	49	Monday							
	M	4		MD2 - issues with RF synch of B2 (nom bunch)					
	M	4		MD2					
	A	4		MD2					
	A	4		MD2 - LHCb spectrometer back on					
	N	4		MD2					
	N	4		MD2					
11/8/2022	50	Tuesday							
	M	4		MD2					
	M	4		MD2					
	A	4		MD2					
	A	4		MD2					
	N	4		MD2					
	N	4		MD2					
11/9/2022	51	Wednesday							
	M	4		VDM - 2b setup fill - 19m optics - ALICE polarity to ++ before start of VDM program	Remove BRANS point 2, TCLIA @ +/- 29.5 mm				
	M	4		VDM setup fill	VELO remains @ 0.5 mm				
	A	4		VDM setup fill					
	A	4		VDM validations fills					
	N	4		VDM - ATLAS/CMS LSC, ALICE & LHCb VDMs (70b)					
	N	4		VDM					
11/10/2022	52	Thursday							
	M	4		VDM					
	M	4		VDM					
	A	4		VDM					
	A	4		VDM - Scans IP1/5 - 19m optics (146b)					
	N	4		VDM					
	N	4		VDM					
11/11/2022	53	Friday							
	M	4		VDM					
	M	4		VDM					
	A	4		VDM					
	A	4		600b ramp up - 25ns_591b_578_510_540_72bpi_12inj_3INDIV - LHCb magnet OFF					
	N	4		600b ramp up - 25ns_591b_578_510_540_72bpi_12inj_3INDIV - LHCb magnet OFF	2 hours of data taking for LHCb				
	N	4		1800b - mu variation fill - 25ns_1815b_1802_1443_1542_180bpi_14inj_3INDIVs	CMS PU @45				
11/12/2022	54	Saturday							
	M	4		1800b - mu variation fill					
	M	4		1800b - mu variation fill					
	A	4		Low beta - 2400b fill					
	A	4		Low beta - 2400b fill					
	N	4		Low beta - 2400b fill					
	N	4		Low beta - 2400b fill					
11/13/2022	55	Sunday							
	M	4		Low beta - 2400b fill - Scraping at the end of a 15h stable beams					
	M	4		Low beta - 2400b fill					
	A	4		Low beta - 2400b fill					
	A	4		Low beta - 2400b fill - QH discharge S45					
	N	4		recovery from QH discharge					
	N	4		recovery from QH discharge					
11/14/2022	56	Monday							
	M	4		Low beta - 2400b fill / access	Injector radiation cooldown				
	M	4		Access	Injector radiation cooldown				
	A	4		Low beta - 2400b fill	Injector radiation cooldown				
	A	4		Low beta - 2400b fill	Injector radiation cooldown				
	N	4		Low beta - 2400b fill	Injector radiation cooldown				
	N	4		Low beta - 2400b fill	Injector radiation cooldown				
11/15/2022	57	Tuesday							
	M	4		Low beta - 2400b fill	Injector radiation cooldown				
	M	4		Low beta - 2400b fill -- High luminosity test in LHCb	Injector radiation cooldown				
	A	4		Low beta - 2400b fill - no beam from SPS (radiation survey) and Linac4 2pm-6pm					
	A	4		Low beta - 2400b fill					
	N	4		Low beta - 2400b fill					

	N	4		Low beta - 2400b fill					
11/16/2022	58	Wednesday							
	M	4		Low beta - 2400b fill - short access					
	M	4		Low beta - 2400b fill					
	A	4		Low beta - 2400b fill					
	A	4		Low beta - 2400b fill					
	N	4		Low beta - 2400b fill					
	N	4		Low beta - 2400b fill					
11/17/2022	59	Thursday							
	M	4		Low beta - 2400b fill					
	M	4		Ion test					
	A	4		Ion test					
	A	4		Ion test - issue with LBDS B1 in ramp					
	N	4		Ion test					
	N	4		Ion test - BBLR dump and access					
11/18/2022	60	Friday							
	M	4		Access for LBDS B1					
	M	4		Ion test - dump at 6.8 TeV on wire-scan					
	A	4		Ion test - collisions					
	A	4		Ion test - collisions					
	N	4		Ion test - collisions					
	N	4		Ion test - collisions					
11/19/2022	61	Saturday							
	M	4		Ion test - Xtal collimation					
	M	4		Ion test - Xtal collimation					
	A	4		Low beta - 2400b fill					
	A	4		RF B2 issues					
	N	4		RF B2 issues					
	N	4		RF B2 issues					
11/20/2022	62	Sunday							
	M	4		RF B2 issues					
	M	4		RF B2 issues					
	A	4		Transverse stability issue B2 - ADT					
	A	4		Transverse stability issue B2 - ADT					
	N	4		Transverse stability issue B2 - ADT					
	N	4		Transverse stability issue B2 - ADT					
11/21/2022	63	Monday							
	M	4		Low beta - 2400b fill - cryo limit test (first refill of day)					
	M	4		Low beta - 2400b fill					
	A	4		Low beta - 2400b fill					
	A	4		Low beta - 2400b fill					
	N	4		Low beta - 2400b fill					
	N	4		Access to point 6					
11/22/2022	64	Tuesday							
	M	4		Floating MD - 2023 configuration					
	M	4		Floating MD - 2023 configuration					
	A	4		Floating MD - 2023 configuration					
	A	4		Quench test					
	N	4		Quench test					
	N	4		Quench test recovery					
11/23/2022	65	Wednesday							
	M	4		Quench test recovery / Access					
	M	4		Door problem at interface UPR/UA53 / 2023 Optics with 1.8E11					
	A	4		2023 Optics with 1.8E11 (repeated after trigger of ATLAS BCM)					
	A	4		Low beta - 2400b fill					
	N	4		Access					
	N	4		Dump with losses at P3 (start of ramp)					
11/24/2022	66	Thursday							
	M	4		Low beta - 2400b fill (CMS @ PU=60, ATLAS @ PU=54; LHCb scan @ mu=7)					
	M	4		Low beta - 2400b fill					
	A	4		BSRT calibration					
	A	4		BSRT calibration					
	N	4		Low beta - 2400b fill - losses IR3 start of ramp					
	N	4		Low beta - 2400b fill - losses IR3 start of ramp					
11/25/2022	67	Friday							
	M	4		Low beta - 2400b fill					
	M	4		Low beta - 2400b fill					
	A	4		Fault RD1.LR1 - PC exchange - test ramp					
	A	4		Low beta - 2400b fill - RF trip @ FT + TCDQ position error					
	N	4		Low beta - 2400b fill					
	N	4		Low beta - 2400b fill					
11/26/2022	68	Saturday							
	M	4		Low beta - 2400b fill					
	M	4		Low beta - 2400b fill					
	A	4		Low beta - 2400b fill - LHCb scan then operator dump					
	A	4		Low beta - 2400b fill - Injectors; then RD1.LR1 doors fault					
	N	4		Low beta - 2400b fill					
	N	4		Low beta - 2400b fill					
11/27/2022	69	Sunday							
	M	4		Low beta - 2400b fill - current lead heater - access point 5					
	M	4		Low beta - 2400b fill - PC trip of RQ8.R8B2					
	A	4		Low beta - 2400b fill - Losses over threshold on BLMQI.05R7					
	A	4		Low beta - 2400b fill - No beam SPS (water leak)					
	N	4		Low beta - 2400b fill					
	N	4		Beam dump @ 6 AM					
11/28/2022	70	Monday							
	M	4		YETS 22-23					
	M	4							
	A	4							
	A	4							
	N	4							
	N	4							

Date	Shift	Time	Team	Status					
4/22/2022	1			WEEK 0					
	M	4	OP/RF/BI		Threading B1&B2 Closed orbit and RF capture, BI setup, OFB & QFB				
	M	4	OP/BI/OMC		Orbit & Q FB commissioning, Optics tools, K-modulation test				
	A	4	ADT		ADT excitation setup				
	A	4	ADT		ADT pickup setup (started - to be continued)				
	N	4	OP		OP checks				
	N	4	OP		T12+T18 response & optics checks				
4/23/2022	2								
	M	4	OMC		Optics at injection				
	M	4	OMC		Optics at injection				
	A	4	OP/BI/OMC		Orbit & Q FB commissioning				
	A	4	OP		Commissioning of ballistic cycle at injection				
	N	4	OP		Precycle, Q & Q' decay measurement				
	N	4	OP		Precycle, Q & Q' decay measurement				
4/24/2022	3								
	M	4	COL		Coarse collimator setup & global injection aperture				
	M	4	COL		Coarse collimator setup & global injection aperture/ NL optics				
	A	4	OMC		Optics at injection (NL)				
	A	4	OMC/OP		Optics at injection (NL) / 6.5 TeV ramp of ballistic optics, dumped, IT L2 quench				
	N	4	OP		Cryo recovery IT L2 quench				
	N	4	OP		Inject and dump sequence, BPM quality checks				
4/25/2022	4			WEEK 1					
	M	4	OP/RF		First ramp to 6.8 TeV, lost on RB.78 PC fault				
	M	4	OP/OMC		Access for RB78				
	A	4	OP/OMC		Ramp to 6.8 TeV, lost on RF B1 trip				
	A	4	OP/OMC		Ramp to 6.8 TeV				
	N	4	OP		Ramp to 6.8 TeV				
	N	4	OP		Q & Q' decay measurement after 6.8 TeV cycle with new model				
4/26/2022	5								
	M	4	ADT		ADT setup with probes				
	M	4	ADT		Cryoplant point 4 lost !				
	A	4	OP		Splashes on TCTs for experiments				
	A	4	OP		Squeeze commissioning - to 30cm				
	N	4	OP		Squeeze commissioning - to 30cm				
	N	4	OP		Squeeze commissioning - to 30cm				
4/27/2022	6								
	M	4	COL		Collimator tilt checks				
	M	4	OP		VIP visit CH				
	A	4	OP		Access - VIP visit CH ATLAS+Point 1				
	A	4	OP/OMC		Optics @ 30 cm				
	N	4	OP/OMC		Optics @ 30 cm				
	N	4	OP		C- decay measurements, new MCS configuration				
4/28/2022	7								
	M	4	OP		Splashes on TCTs for experiments				
	M	4	OP		Splashes on TCTs for experiments				
	A	4	OP		Tune FB check, SPS access for SBDS				
	A	4	OP		Ballistic optics ramp to 6.5 TeV				
	N	4	OP/COL		Studies with crystal				
	N	4	OP/COL		Studies with crystal				
4/29/2022	8								Friday
	M	4	OP		SPS access 9-12				
	M	4	ABT		MKD/MKI waveform & synchronization				
	A	4	ADT		ADT setup with probes				
	A	4	ADT		ADT setup with probes				
	N	4	ADT		ADT setup with probes				
	N	4	OP		Longitudinal blowup test + FMCM MPS tests @injection				
4/30/2022	9								Saturday
	M	4	ABT		Cryo issue in IP8				
	M	4	ABT		Cryo issue in IP8				
	A	4	OP/OMC		Cryo issue in IP8				
	A	4	OMC		Cryo issue in IP8				
	N	4	OMC		Cryo issue in IP8				
	N	4	OP		Cryo issue in IP8				
5/1/2022	10								Sunday
	M	4	ABT		Cryo issue in IP8				
	M	4	ABT		Cryo issue in IP8				
	A	4	ABT		Cryo issue in IP8				
	A	4	ABT		Cryo issue in IP8				
	N	4	OP		Cryo issue in IP8				
	N	4	OP		RQTL11.L4B2 converter fault				
5/2/2022	11			WEEK 2					
	M	4	OP		SPS water leak				Monday
	M	4	OP		SPS water leak				
	A	4	OP		SPS water leak				
	A	4	OMC		Local corrections at FT / 60 cm / 30 cm				
	N	4	OMC		Local corrections at FT / 60 cm / 30 cm				
	N	4	OMC		Local corrections at FT / 60 cm / 30 cm				
5/3/2022	12								Tuesday
	M	4	OP/RF/ABT		Injection nominal bunch, energy matching to SPS (flat orbit)				
	M	4	OP/RF/ABT		Injection nominal bunch, energy matching to SPS (flat orbit)				
	A	4	ABT		MKD/MKI waveform & synchronization, AGK				
	A	4	OP		Ballistic commissioning				
	N	4	OP		Access for MKD faulty generator				
	N	4	OP		Cycle cleaning after local corrections				

	A	4							
	N	4							
	N	4							
5/17/2022	26							Tuesday	
	M	4					VELO stop/ injector TS		
	M	4							
	A	4							
	A	4							
	N	4	OP				One probe through nominal cycle		
	N	4	OP				First test of VDM ramp-desqueeze with one probe		
5/18/2022	27							Wednesday	
	M	4	OP				One probe through nominal cycle		
	M	4	OP				Access RB12		
	A	4	ADT				ADT BPM tests (loop not closed)		
	A	4	ADT				ADT BPM tests (loop not closed)		
	N	4	OP				BLM MP tests (trigger delay)		
	N	4	OP				VDM ramp-desqueeze with one probe		
5/19/2022	28							Thursday	
	M	4	OP				BPM quality check, Xing & Sep bumps, ALICE & LHC spectro / Sol (ALICE -/)		
	M	4	OP				BPM quality check, Xing & Sep bumps, ALICE & LHC spectro / Sol (ALICE -/)		
	A	4	OP				BPM quality check, Xing & Sep bumps, ALICE & LHC spectro / Sol (ALICE -/)		
	A	4	OP				VDM ramp-desqueeze with one probe		
	N	4	OP				VDM ramp-desqueeze with one probe		
	N	4	OP				Longitudinal blow up test at injection		
5/20/2022	29							Friday	
	M	4	COL				Collimator alignment injection		
	M	4	COL				Collimator alignment injection		
	A	4	OP/ABT				AGK setup & tests		
	A	4	OP/ABT				AGK setup & tests		
	N	4	OMC				Measurements on VdM optics		
	N	4	OMC				Measurements on VdM optics		
5/21/2022	30							Saturday	
	M	4	OP				President visit ALICE + LSS2		
	M	4	OP				President visit ALICE + LSS2		
	A	4	ABT				MK12/8 waveform - pass 2		
	A	4	ABT				MK12/8 waveform - pass 2		
	N	4	OP				Coupling optimisation during the squeeze (Tobias)		
	N	4	OP				Coupling optimisation during the squeeze (Tobias)		
5/22/2022	31							Sunday	
	M	4	OP				OP work at injection		
	M	4	OP				Loss map app for asynch beam dump		
	A	4	OP				BBLR test at injection		
	A	4	OP				BBLR test at injection		
	N	4	OP				Cycle to 30cm with latest settings for bumps, check Q in ramp		
	N	4	OP				Cycle to FT to check Q' in ramp + 30min for Q' decay at flat-top		
5/23/2022	32						WEEK 5	Monday	
	M	4	ABT				TCDIL, TCDIS, TCLI, TCDQ alignment part (1)		
	M	4	ABT				TCDIL, TCDIS, TCLI, TCDQ alignment part (1)		
	A	4	ABT				SVC compensator (6+8) restart, access for RB81, precycle		
	A	4	ABT				TCDIL, TCDIS, TCLI, TCDQ alignment part (1)		
	N	4	ABT				TCDIL, TCDIS, TCLI, TCDQ alignment part (1)		
	N	4	OP				Q' all ramp		
5/24/2022	33							Tuesday	
	M	4	OP/COL				Setup collisions at injection		
	M	4	OP/COL				Setup collisions at injection, TCT alignment for collisions, loss maps: coarse and IR7 nominal settings		
	A	4	ABT				TCDIL validation		
	A	4	ABT				ADT DSPU test to close the loop		
	N	4	ADT				ADT DSPU test to close the loop		
	N	4	ADT				ADT DSPU test to close the loop		
5/25/2022	34							Wed	
	M	4	OP				Access - close IR7 collimation doors after this access		
	M	4	OP				Access - close IR7 collimation doors after this access		
	A	4	ABT				TCDQ alignment, dump aperture		
	A	4	OP/COLL				XRP, LMs, global aperture at 30 cm		
	N	4	COLL/OMC				XRP, LMs, global aperture at 30 cm		
	N	4	OP				VdM with bumps to collisions (with probe, non-colliding)		
5/26/2022	35							TH: Ascension WE	
	M	4	OP				Ramp of nominal		
	M	4	OP				Ramp of nominal		
	A	4	OMC				Optics at FT - global corr & NL		
	A	4	OMC				Optics at FT - global corr & NL		
	N	4	OP				VdM with bumps to collisions (with probe, non-colliding)		
	N	4	OP				VdM with bumps to collisions (with probe, non-colliding)		
5/27/2022	36							FR: Ascension WE	
	M	4	OP				First stable beams at 450 GeV		
	M	4	OP				First stable beams at 450 GeV		
	A	4	OMC/OP				Setup 60/60 optics at 450 GeV - threading & parasitic splashes		
	A	4	OMC/OP				60/60 optics at 450 GeV - B1 only		
	N	4	OP				Dump 30-40 probes @ 450 GeV - dump sweep check		
	N	4	OP				Q' in the ramp, coupling in the ramp		
5/28/2022	37							SA: Ascension WE	
	M	4	OP				Stable beams at 450 GeV		
	M	4	OP				Stable beams at 450 GeV		
	A	4	OMC				OMC		
	A	4	OMC				Problem with extraction septa		
	N	4	OMC				OMC		
	N	4	OP				Vdm cycle after FF of corrections		
5/29/2022	38							SU: Ascension WE	

	M	4	OP		Stable beams at 450 GeV			
	M	4	OP		Stable beams at 450 GeV			
	A	4	OMC		OMC			
	A	4	OMC		OMC			
	N	4	OMC		OMC			
	N	4	OP		Training quench of RB23			
5/30/2022	39			WEEK 6				
	M	4	OP		Training quench of RB23 recovery			
	M	4	OP		Tune quality for ramp, ramp of nominal			
	A	4	COLL		Collimator alignment FT, interrupted by fault on RB.34			
	A	4	COLL		Access for RB34			
	N	4	OP/OMC		Collimator alignment FT			
	N	4	OP/OMC		Coupling on VDM			
5/31/2022	40							Tue
	M	4	OP		Finding collisions on vdm at FT (2 nominal bunches)			
	M	4	OP		Finding collisions on vdm at FT (2 nominal bunches)			
	A	4	ABT		TDIS alignment (config problem)			
	A	4	ABT		TDIS alignment (config problem)			
	N	4	OMC		Waist knob @ 30 cm			
	N	4	OMC		Waist knob @ 30 cm			
6/1/2022	41							Wed
	M	4			Weekly access - tbc			
	M	4			Weekly access - tbc			
	A	4	COLL		Aperture at injection			
	A	4	COLL		Aperture at injection			
	N	4	COLL		COLL activities - ramp with full system, re-alignment at FT			
	N	4	COLL		COLL activities - ramp with full system, re-alignment at FT			
6/2/2022	42							Thu
	M	3: 7 to 10	BI		phasing of dBLM in P7			
	M	2: 10 to 12	COLL		Horizontal muons for ATLAS from 10-12			
	M	3: 12 to 15	ABT		TCL I A and B			
	A	4	ABT		TCL I A and B			
	A	4	ADT		ADT delays for trains (1 probe / beam at injection)			
	N	4	OP		COLL activities - ramp nominal with full system			
	N	4	OP		COLL activities - xtals @ FT			
6/3/2022	43							Fri
	M	4	OP		Stable beams at 450 GeV			
	M	4	OP		Stable beams at 450 GeV			
	A	4	OMC		Degauss + precycle + FT optics			
	A	4	OMC		Degauss + precycle + FT optics			
	N	4	OMC		Degauss + precycle + FT optics			
	N	4	OP		Stable beams at 450 GeV/ non-linearity scans			
6/4/2022	44							SA - Pentecote
	M	4	OP		Stable beams at 450 GeV/ non-linearity scans			
	M	4	OP		Stable beams at 450 GeV/ non-linearity scans			
	A	4	OP		Stable beams at 450 GeV/ non-linearity scans			
	A	4	OMC		Nonlinear optics			
	N	4	OMC		Nonlinear optics			
	N	4	OMC		Nonlinear optics			
6/5/2022	45							SU - Pentecote
	M	4	OP		Stable beams at 450 GeV / LHCb scans			
	M	4	OP		Stable beams at 450 GeV / LHCb scans			
	A	4	OP		Stable beams at 450 GeV for ATLAS and CMS			
	A	4	ABP		Bunch stability at FT			
	N	4	ABP		Bunch stability at FT			
	N	4	ABP		Bunch stability at FT			
6/6/2022	46			WEEK 7				MO - Pentecote
	M	4	OMC		Final global correction 30 cm with Xing scheme			
	M	4	OMC		RB23 quench, RF cavity emptying			
	A	4	OP		Cryo recovery / RF conditioning			
	A	4	OP		Cryo recovery / RF conditioning			
	N	4	OP		Cryo recovery / RF conditioning			
	N	4	OP		Cryo recovery / RF conditioning			
6/7/2022	47							Tue
	M	4	OP		Cryo recovery / RF conditioning			
	M	4	OP		RB23 quench at 11522A during powering test to 11600A			
	A	4	OP		Cryo recovery / repair blower on RF coupler 7B2			
	A	4	OP		Cryo recovery / RF conditioning / RB23 quench at 11595A during powering test			
	N	4	OP		Cryo recovery / RF conditioning			
	N	4	OP		Cryo recovery / RF conditioning			
6/8/2022	48							Wed
	M	4	OP		Cryoplant reconfiguration / RF conditioning			
	M	4	OP		Cryoplant reconfiguration			
	A	4	OP		Cryoplant reconfiguration			
	A	4	OP		Cryoplant reconfiguration			
	N	4	OP		QPS A67			
	N	4	OP		LINAC4 RF			
6/9/2022	49							Thu
	M	4	OP		LINAC4 RF			
	M	4	OMC		First fill: measurements at 30 cm with Xing scheme			
	A	4	OMC		First fill: measurements at 30 cm with Xing scheme			
	A	4	OMC		Second fill: cycle with all corrections in place, check 60 cm & 30 cm			
	N	4	OMC		Second fill: cycle with all corrections in place, check 60 cm & 30 cm			
	N	4	OP		LINAC4 RF			
6/10/2022	50							Fri
	M	4	OP		LINAC4 RF			
	M	4	ABT/STI		TDIS alignment at injection and TCDQ setup at injection			
	A	4	OP/RF		RF setup with beam			

	A	4	OP/ABT		TDIS & TCDQ alignment at injection			
	N	4	OP		Optics at 30 cm and 60 cm continued			
	N	4	OP		Optics at 30 cm and 60 cm continued			
6/11/2022	51						Sat	
	M	4	ADT		ADT setup for trains + 1h access ATLAS RPC			
	M	4	ADT		ADT setup for trains + Abort Gap			
	A	4	ABT		TDIS alignment at injection and TCDQ setup at injection			
	A	4	ABT		TDIS alignment at injection and TCDQ setup at injection + LINAC4 fault			
	N	4	OP		Optics at 30 cm and 60 cm continued			
	N	4	OP		Optics at 30 cm and 60 cm continued			
6/12/2022	52						Sun	
	M	4	OP		Full cycle setup / beta* levelling test with probes - no collisions			
	M	4	OP		Ramp nominal to flat-top and 60 cm with closed collimation, collisions in IR1,2,5 at 60 cm			
	A	4	OP		MP validation for stable beams at injection (nominal IR7/3)			
	A	4	OP		MP validation at injection (loss maps, asynch dump)			
	N	4	OP		Optics at 30 cm and 60 cm, waist correction			
	N	4	OP		Optics at 30 cm and 60 cm, waist correction			
6/13/2022	53							
					WEEK 8			
	M	4	OP		Stable beams at 450 GeV		To fulfill the LHCb request	
	M	4	OP		Stable beams at 450 GeV			
	A	4	OP		Access BETS / RF / BLM / ATLAS RPC - 4 h max		tbc	
	A	4	ABT		Loss map at injection and validation of TCL1			
	N	4	OP/ABP	c	Access for ROD.A67B2 + RCBH21.L7B2			
	N	4	OP		Preliminary lossmap at flat-top (betatron, off-momentum)			
6/14/2022	54						Tue	
	M	4	ABT/ABP		Interlock BPMs and/or study losses at IR2			
	M	4	ABT/ABP		Interlock BPMs and/or study losses at IR2			
	A	4	OP/ABT/BI		First 12b injection			
	A	4	OP/ABT		First 72b injection			
	N	4	OP/ABP		Scrubbing preparation			
	N	4	OP/ABP		Scrubbing preparation			
6/15/2022	55						Wed	
	M	4	OP/ABP		Scrubbing			
	M	4	OP/ABP		SPS ZS access			
	A	4	OP/ABP		ZS access / Scrubbing			
	A	4	OP/ABP		Scrubbing			
	N	4	OP/ABP		Scrubbing			
	N	4	OP/ABP		Scrubbing			
6/16/2022	56						Thu	
	M	4	CRYO		Regeneration of cryo cold compressor at P4			
	M	4	CRYO		Regeneration of cryo cold compressor at P4			
	A	4	CRYO		Regeneration of cryo cold compressor at P4			
	A	4	OP/ABP		TCL1 checks			
	N	4	OP/ABP		Scrubbing			
	N	4	OP/ABP		Scrubbing			
6/17/2022	57						Fri	
	M	4	OP		Optics at 30 cm and 60 cm, waist correction		TCDQ at flat-top	
	M	4	OP		Optics at 30 cm and 60 cm, waist correction		Aperture top energy to 30 cm	
	A	4	OP		Optics at 30 cm and 60 cm, waist correction		Aperture top energy to 30 cm	
	A	4	RF		ADT calibration/ scrubbing			
	N	4	OP/ABP		Scrubbing			
	N	4	OP/ABP		Scrubbing			
6/18/2022	58						Sat	
	M	4	OP/ABP		Scrubbing			
	M	4	OP/ABP		Scrubbing			
	A	4	OP/ABP		Scrubbing			
	A	4	OP/ABP		Scrubbing			
	N	4	OP/ABP		Scrubbing			
	N	4	OP/ABP		Scrubbing			
6/19/2022	59						Sun	
	M	4	OP		ALICE polarity change			
	M	4	OP		Collisions 60cm - 30cm, TCT pre-setup			
	A	4	OP		Collisions 60cm - 30cm, TCT pre-setup, MKB B2 flashover			
	A	4	OP/ABP		Scrubbing			
	N	4	OP/ABP		Scrubbing			
	N	4	OP/ABP		Scrubbing			
6/20/2022	60							
					WEEK 9			
	M	4	OP		Stable beams at 450 GeV			
	M	4	OP		Stable beams at 450 GeV (--> 14:00)			
	A	4	ABT		MKB access + conditioning			
	A	4	ABT		MKB conditioning			
	N	4	ABT		MKB conditioning			
	N	4	OP		vacuum valves issues (point 7)			
6/21/2022	61						Tue	
	M	4	ABT		TCDQ alignment			
	M	4	OP/ABP		TCDQ/TCT/TCL alignment			
	A	4	OP/ABP		TCDQ/TCT/TCL alignment			
	A	4	OP/ABP		aperture @30cm			
	N	4	OP		Loss maps at injection, Scrubbing			
	N	4	OP/ABP		Scrubbing			
6/22/2022	62						Wed	
	M	4	OP/ABP		Scrubbing - n x 72b injection			
	M	4	OP/ABP		Scrubbing - n x 72b injection (quench at injection in S81)			
	A	4			QPS Quads EE Switch in S81, Magnet MBI.AH.87850 in TI8			
	A	4			PC RQF.A81 + Thunderstorm Q9/Q10			
	N	4			Scrubbing (Transfer line losses)			
	N	4			Scrubbing (Transfer line losses - quench at injection in S81)			
6/23/2022	63						Thu	

	M	4			MKB intervention			
	M	4			MKB intervention			
	A	4			MKB intervention			
	A	4			QPS RB.A23 + MBI.81607 (TI8)			
	N	4	OP/EXP		BBA of roman pots (ALFA limit, SBF forced)			
	N	4	OP/EXP		BBA of roman pots			
6/24/2022	64							Fri
	M	4	OP/EXP		BBA of roman pots			
	M	4	OP/EXP		BBA of roman pots			
	A	4	ABT		Transfer Line Investigations (including 72b injections)			
	A	4	ABT		Transfer Line Investigations then floating MD			
	N	4	OP		Floating MD			
	N	4	OP		Floating MD			
6/25/2022	65							Sat
	M	4	OP		Floating MD			
	M	4	OP		Floating MD			
	A	4	OP		Floating MD			
	A	4	OP		Floating MD			
	N	4	OP		Floating MD			
	N	4	OP		Floating MD			
6/26/2022	66							Sun
	M	4	OP		Floating MD (MD6949 cancelled/postponed)			
	M	4	OP		LM at FT			
	A	4	OP		Floating MD - continuous			
	A	4	OP		Floating MD - continuous			
	N	4	OP		SB at injection (~6h)			
	N	4	OP		Scrubbing with 48b			
6/27/2022	67			WEEK 10				Mo
	M	4	ABT		Injection studies			
	M	4	ABT		Injection studies			
	A	4	ABT		Injection studies			
	A	4	ABT		Injection studies			
	N	4	ABP		Scrubbing			
	N	4	ABP		Scrubbing			
6/28/2022	68							Tue
	M	4	OP		SPS ZS and Mains			
	M	4	OP/COLL		Aperture measurements up to 60cm			
	A	4	OP/COLL		Aperture measurements up to 60cm			ATLAS prepare Cs
	A	4	OP/COLL		Aperture measurements up to 60cm			
	N	4	OP		LMs with and without colliding beams			
	N	4	OP		LMs with and without colliding beams			
6/29/2022	69							Wed
	M	4	OP/COLL		Aperture at 30cm			
	M	4	OP/COLL		Aperture at 30cm			
	A	4	OP		LMs with colliding beams			
	A	4	OP		LMs with colliding beams			
	N	4	OP		LMs with colliding beams + repeat failed LMs			
	N	4	OP		LMs with colliding beams + repeat failed LMs			
6/30/2022	70							Thu
	M	4	OP		Access for TCDQ BETS			
	M	4	OP		Access			
	A	4	OP		Access recovery (from EL 66kV intervention in Meyrin)			
	A	4	OP		Recovery			ATLAS Cs scan
	N	4	OP/BI		Loss maps with XRP out + @injection			ATLAS Cs scan
	N	4	OP/BI		Loss maps stocking filler (no trains in the injectors for scrubbing)			
7/1/2022	71							Fri
	M	4	OP		Stable beams at injection - 900 GeV BB			
	M	4	OP		Stable beams at injection - 900 GeV BB			
	A	4	OP		Floating MD (starting @3pm)			
	A	4	OP		Floating MD			
	N	4	OP		Floating MD			
	N	4	OP		Optics in the ramp			
7/2/2022	72							Sat
	M	4	OP		Floating MD			
	M	4	OP		Floating MD (ending @ 4pm)			
	A	4	OP		Scrubbing			
	A	4	OP		Scrubbing			
	N	4	OP		Scrubbing			
	N	4	OP		Scrubbing			
7/3/2022	73							Sun
	M	4	OP		Scrubbing			
	M	4	OP		LMs with RPs - 2nd round			
	A	4	OP		Scrubbing			
	A	4	OP		Electrical perturbations			
	N	4	OP		No beam PSB (issue rad monitors)			
	N	4	OP		No beam PSB (issue rad monitors)			
7/4/2022	74			WEEK 11				Mo
	M	4	OP		No beam from injectors			
	M	4	OP		Prepare fill @ 13:00 to adjust - rehearsal of July 5th			
	A	4	OP		Prepare fill @ 13:00 to adjust - rehearsal of July 5th / Dump: 2 RBs tripped			
	A	4	OP		Trip of RB.A12 and RB.A78 / BRST calibration fill (start @8pm)			
	N	4	OP		BRST calibration fill (start @8pm) / Stable beams @900 GeV			
	N	4	OP		Collimator impedance			
7/5/2022	75							Tue
	M	4	OP		RB.A56 quench			
	M	4	OP		RB.A56 quench			
	A	4	OP		Media event first stable beams @ 16:00			
	A	4	OP		Stable beams 3b fill #1			

	N	4	OP		Stable beams 3b fill #1			
	N	4	OP		Stable beams 3b fill #2			
7/6/2022	76						Wed	
	M	4			Stable beams 3b fill #2 - test ALICE solenoid ramp up/down to 12kA and 0			
	M	4			Stable beams 3b fill #2, quench of RB.A56, followed by RB.A81			
	A	4			RB.A56 & RB.A81 quench recovery			
	A	4			RB.A56 & RB.A81 quench recovery			
	N	4			Recovery, stable beams 12b fill #3			
	N	4			Stable beams 12b fill #3 - filling scheme Single_12b_8_8_2018			
7/7/2022	77						Thu	
	M	4			Stable beams 12b fill #3			
	M	4			Stable beams 12b fill #3			
	A	4			Injection setup for 288b			
	A	4			Injection setup for 288b / scrubbing			
	N	4			Scrubbing			
	N	4			Scrubbing			
7/8/2022	78						Fr	
	M	4			Scrubbing			
	M	4			Scrubbing			
	A	4			Scrubbing			
	A	4			Scrubbing			
	N	4			Scrubbing			
	N	4			Scrubbing			
7/9/2022	79						Sat	
	M	4			Scrubbing			
	M	4			Scrubbing			
	A	4			Scrubbing			
	A	4			Scrubbing			
	N	4			Scrubbing			
	N	4			Scrubbing			
7/10/2022	80						Sun	
	M	4			Two attempts for 75b dumped - tune & UFO in 17L2			
	M	4			Two attempts for 75b dumped - tune & UFO in 17L2			
	A	4			Stable beams 75b fill #1 (ALICE solenoid ramp to 12 kA/0, pol +/-)			
	A	4			Stable beams 75b fill #1			
	N	4			75b fill dumped by UFO 31L2			
	N	4			Stable beams 75b fill #2 (ALICE solenoid and spectrometer off)			
7/11/2022	81				WEEK 12		Mo	
	M	4			Stable beams 75b fill #2			
	M	4			Stable beams 75b fill #2			
	A	4			Stable beams 75b fill #3 (ALICE solenoid from 0 to 12 kA & 30kA, pol -/-)			
	A	4			Stable beams 75b fill #4 (ALICE solenoid from 0 to 12 kA & 30kA, pol -/-)			
	N	4			Stable beams 72b fill (special fill for low mu)			
	N	4			Stable beams 72b - filling scheme 525ns_72b_64_48_16_8bpi_9inj_800ns_bs525ns			
7/12/2022	82						Tue	
	M	4			Stable beams 72b fill, quench RB23			Maintenance of access consoles
	M	4			Quench recovery S23			
	A	4			Quench recovery S23, earth fault RQF.23			
	A	4			Quench recovery S23, RF HW issue			
	N	4			Stable beams 300b fill #1 filling scheme 25ns_339b_326_206_266_12bpi_31inj			
	N	4			Stable beams 300b fill #1 - dump by UFO #3			
7/13/2022	83						Wed	
	M	4			Access			SPS access for mains, SPS dedicated MD
	M	4			Access			
	A	4			TCTW (BBLR) test cycle			
	A	4			TCTW (BBLR) test cycle			
	N	4			Beam blow-up at injection			
	N	4			BETS TCDQ B1 fault			
7/14/2022	84						Thu	
	M	4			Test of 48bpi at injection / Access for BETS TCDQ			SPS parallel MD with long cycle
	M	4			Loss Maps in the ramp			
	A	4			Stable beams 300b fill #2 - filling scheme 25ns_315b_302_237_240_48bpi_11inj			
	A	4			Stable beams 300b fill #2			
	N	4			Stable beams 300b fill #2			
	N	4			Stable beams 300b fill #2			
7/15/2022	85						Fri	
	M	4			Direct dump BLM at injection			reserve = loss maps for TCTW
	M	4			Cryo P6			
	A	4			Cryo P6			
	A	4			Cryo P6 - filling possible after pre-cycle at ~9pm / Faulty Fire Alarm			
	N	4			Scrubbing			
	N	4			Scrubbing			
7/16/2022	86						Sat	
	M	4			Scrubbing			
	M	4			Scrubbing			
	A	4			RF power converter problem			
	A	4			RF power converter problem			
	N	4			RF power converter problem			
	N	4			RF power converter problem			
7/17/2022	87						Sun	
	M	4			RF power converter problem			
	M	4			RF power converter problem			
	A	4			Scrubbing			
	A	4			Scrubbing			
	N	4			RF intervention validation fill + LM for BBLR			
	N	4			Stable beams 300b fill #3 - filling scheme 25ns_315b_302_237_240_48bpi_11inj			

7/18/2022	88			WEEK 13		Mo		
	M	4			Stable beams 300b fill #3 - with emittance scans at each Beta*			
	M	4			Collimator impedance at 6.8 TeV (2 bunches) // while validating intensity step			
	A	4			Collimator impedance at 6.8 TeV			
	A	4			Collimator impedance at 6.8 TeV			
	N	4			Trip of 18 kV transformer			
	N	4			Trip of 18 kV transformer // Loss maps for BBLR, tripped by wire circuit			
7/19/2022	89					Tue		
	M	4			BB MD phase knob tests at injection			
	M	4			BB MD phase knob tests at injection			
	A	4			Stable beams 600b fill #1 - RF trip			
	A	4			Stable beams 600b fill #1 - UFO in 17L2			
	N	4			Stable beams 600b fill #2 - filling scheme 25ns_603b_590_524_542_48bpi_17inj			
	N	4			Stable beams 600b fill #2 - AFP low mu			
7/20/2022	90					Wed		
	M	4			Stable beams 600b fill #2 - AFP low mu - RF trip			
	M	4			Stable beams 600b fill #3 - filling scheme 25ns_603b_590_524_542_48bpi_17inj - LHCb dip. trip			
	A	4			Stable beams 600b fill #4 - filling scheme 25ns_603b_590_524_542_48bpi_17inj - LHCb dip. trip			
	A	4			BBLR validation - Test the effect of wire converter trip			
	N	4			Stable beams 600b fill #5 - IP1 low mu - RF trip			
	N	4			Stable beams 600b fill #6 - IP5 low mu [to be repeated - CMS acquisition issues]			
7/21/2022	91					Thu		
	M	4			Stable beams 600b fill #7 - IP5 low mu - PIC (IP5 low-mu completed)			
	M	4			Recovery PC trip; Trip 78 during pre-cycle.			
	A	4			Stable beams 600b fill #8 - filling scheme 25ns_603b_590_526_547_96bpi_13inj - RF trip			
	A	4			Stable beams 600b fill #9 - filling scheme 25ns_603b_590_526_547_96bpi_13inj - RF trip			
	N	4			Stable beams 600b fill #10 - filling scheme 25ns_603b_590_526_547_96bpi_13inj - UFO			
	N	4			Stable beams 600b fill #10 - filling scheme 25ns_603b_590_526_547_96bpi_13inj - high mu=52			
7/22/2022	92					Fri		
	M	4			Fill for BBLR loss maps			
	M	4			Crystals at 6.8 TeV (TBC)			
	A	4			Crystals at 6.8 TeV followed by RF detuning checks at injection			
	A	4			Stable beams 900b fill #1 - filling scheme 25ns_987b_974_876_912_96bpi_17inj			
	N	4			Cryo issue RQ10.L4			
	N	4			Injectors down			
7/23/2022	93					Sat		
	M	4			Injectors down			
	M	4			Stable beams 900b fill #2 - filling scheme 25ns_987b_974_876_912_96bpi_17inj			
	A	4			Stable beams 900b fill #2			
	A	4			Stable beams 900b fill #2 / Access for cryo point 1			
	N	4			Access cryo LHC / SPS vacuum issue LSS5			
	N	4			SPS vacuum issue LSS5			
7/24/2022	94					Sun		
	M	4			SPS vacuum issue LSS5			
	M	4			SPS vacuum issue LSS5			
	A	4			RF PCs, QPS S45			
	A	4			BB MD at injection energy			
	N	4			BB MD at injection energy			
	N	4			BB MD at injection energy			
7/25/2022	95				WEEK 14	Mo		
	M	4			Tune signal at injection			
	M	4			Stable beams 900b fill #3 - filling scheme 25ns_987b_974_876_912_144bpi_13inj - level			
	A	4			Fill with 900b dumped on losses			
	A	4			Stable beams 900b fill #4 - filling scheme 25ns_987b_974_876_912_144bpi_13inj - level @ 52 pileup			
	N	4			Fill with 900b - RF B2 dump in ramp			
	N	4			Fill with 900b - RF B2 dump in ramp			
7/26/2022	96					Tue		
	M	4			Access FASER+SND			
	M	4			Access FASER+SND			
	A	4			Access safety systems pt 1 (16-18) / recovery			
	A	4			Recovery			
	N	4			Collimator impedance measurements			
	N	4			Collimator impedance measurements			
7/27/2022	97					Wed		
	M	4			RF intervention circulator 8B2			
	M	4			RF intervention circulator 8B2			
	A	4			RF intervention circulator 8B2 / recovery			
	A	4			Stable beams 900b fill - filling scheme 25ns_987b_974_876_912_96bpi_17inj			
	N	4			Stable beams 900b fill			
	N	4			Stable beams 900b fill			
7/28/2022	98					Thu		
	M	4			Access RB45 / RF full detuning			
	M	4			RF full detuning			
	A	4			Abort gap keeper adjustment for physics operation			
	A	4			Stable beams 900b fill - 25ns_987b_974_876_912_144bpi_13inj			
	N	4			Stable beams 900b fill - 25ns_987b_974_876_912_144bpi_13inj			
	N	4			Stable beams 900b fill			
7/29/2022	99					Fr		
	M	4			CPS issues			
	M	4			CPS issues / Stable beams 1200b fill - 25ns_1227b_1214_1054_1102_144bpi_14inj			
	A	4			Stable beams 1200b fill			
	A	4			Stable beams 1200b fill dumped by UFO 21L2			
	N	4			Stable beams 1200b fill dumped by UFO 21R2			
	N	4			Stable beams 1200b fill dumped by UFO 22R6			
7/30/2022	100					Sat		
	M	4			Quench RQ10.L8 during ramp			

	M	4		Stable beams 1200b fill - 25ns_1227b_1214_1054_1102_144bpi_14inj		
	A	4		Stable beams 1200b fill		
	A	4		Stable beams 1200b fill		
	N	4		Stable beams 1200b fill - 25ns_1227b_1214_1054_1102_144bpi_14inj		
	N	4		Stable beams 1200b fill		
7/31/2022	101				Sun	
	M	4		Quench RB34, cryo recovery		
	M	4		Cryo recovery		
	A	4		Recovery / 1500b fill dumped on TCLIA.4R8 temperature		
	A	4		Stable beams 1500b fill - 25ns_1551b_1538_1404_1467_144bpi_16inj		
	N	4		Stable beams 1500b fill		
	N	4		Stable beams 1500b fill dumped bu UFO 11R1, quench RB.12		
8/1/2022	102		WEEK 15		Mon	
	M	4		Cryo recovery		
	M	4		Cryo recovery, Switch to 192bpi, investigate TCLIA.4L8 temperature issue		
	A	4		Stable beams 1500b fill - 25ns_1551b_1538_1406_1472_192bpi_12inj_3INDIVs - UFO 29R1		
	A	4		Stable beams 1500b fill - 25ns_1551b_1538_1406_1472_192bpi_12inj_3INDIVs		
	N	4		Access Point 5 / QPS		
	N	4		Stable beams 1500b fill - 25ns_1551b_1538_1406_1472_192bpi_12inj_3INDIVs		
8/2/2022	103				Tue	
	M	4		Stable beams 1500b fill		
	M	4		Stable beams 1500b fill		
	A	4		Stable beams 1500b fill		
	A	4		Stable beams 1500b fill - 25ns_1551b_1538_1406_1472_192bpi_12inj_3INDIVs		
	N	4		Stable beams 1500b fill		
	N	4		Stable beams 1500b fill - quench RB23		
8/3/2022	104				Wed	
	M	4		Access - RP survey starts at 8:00, first accesses at 8:30 / cryo recovery		
	M	4		Access / cryo recovery		
	A	4		Access RQ8.L1		
	A	4		Abort gap keeper update		
	N	4		Stable beams 1900b fill - 25ns_1935b_1922_1602_1672_192bpi_14inj_800ns_bs200ns_3INDIVs		
	N	4		Stable beams 1900b fill		
8/4/2022	105				Thu	
	M	4		Stable beams 1900b fill --> 13:00		
	M	4		Optics in the ramp		
	A	4		Optics in the ramp / Kmod IP4 - RB.81 fault		
	A	4		Stable beams 1900b fill - 25ns_1935b_1922_1602_1672_192bpi_14inj_800ns_bs200ns_3INDIVs		
	N	4		Stable beams 1900b fill		
	N	4		Stable beams 1900b fill		
8/5/2022	106				Fri	
	M	4		Stable beams 1900b fill		
	M	4		Stable beams 1900b fill / access QPS point 4		
	A	4		Access RF / UPR17 sump		
	A	4		Stable beams 1900b fill - 25ns_1935b_1922_1602_1672_192bpi_14inj_800ns_bs200ns_3INDIVs		
	N	4		Stable beams 1900b fill - 25ns_1935b_1922_1602_1672_192bpi_14inj_800ns_bs200ns_3INDIVs		
	N	4		Stable beams 1900b fill / QPS issue RSF point 8		
8/6/2022	107				Sat	
	M	4		Access QPS		
	M	4		Access QPS		
	A	4		Stable beams 1900b fill - 25ns_1935b_1922_1602_1672_192bpi_14inj_800ns_bs200ns_3INDIVs		
	A	4		Stable beams 1900b fill - 25ns_1935b_1922_1602_1672_192bpi_14inj_800ns_bs200ns_3INDIVs		
	N	4		Stable beams 1900b fill		
	N	4		Stable beams 1900b fill		
8/7/2022	108				Sun	
	M	4		Stable beams 1900b fill		
	M	4		Stable beams 1900b fill - 25ns_1935b_1922_1602_1672_192bpi_14inj_800ns_bs200ns_3INDIVs		
	A	4		Stable beams 1900b fill		
	A	4		Massive powering failures, cryo lost in many sectors, IT R1 and L8 quenches. RB56 training quench		
	N	4		Recovery		
	N	4		Recovery		
8/8/2022	109		WEEK 16		Mon	
	M	4		Stable beams 1900b fill - 25ns_1935b_1922_1758_1842_240bpi_12inj_800ns_bs200ns_3INDIVs		Blindable BLM test
	M	4		SPS access system problem dumped 1900b fill		Longitudinal blow up in physics
	A	4		Stable beams 2100b fill - 25ns_2173b_2160_1804_1737_240bpi_11inj_1INDIV - RF trip		Kmod at 6.8 TeV, amplitude detuning at 6.8 TeV
	A	4		Stable beams 2100b fill - 25ns_2173b_2160_1804_1737_240bpi_11inj_1INDIV - UFO@TCL		Full detuning (phases 2 + 3)
	N	4		Stable beams 2100b - Trip by RQ6.R3B2 , followed by SPS kicker problem; then another UFO@TCL		Crystals ++
	N	4		Stable beams 2100b		
8/9/2022	110				Tue	
	M	4		Stable beams 2100b		
	M	4		Stable beams 2100b		
	A	4		Stable beams 2100b - dumped by UFO 13R6		
	A	4		Stable beams 2100b fill - 25ns_2173b_2160_1804_1737_240bpi_11inj_1INDIV		
	N	4		Stable beams 2100b		
	N	4		RF trip dumped fill; training quench RB56 after dump; cryo lead issue		
8/10/2022	111				Wed	
	M	4		Quench recovery		
	M	4		Scheduled access and RF klystron investigation		
	A	4		Scheduled access and RF klystron investigation until 17h		
	A	4		Stable beams 2100b		
	N	4		Stable beams 2100b		
	N	4		Stable beams 2100b		
8/11/2022	112				Thu	
	M	4		Stable beams 2100b / Crystal tests at 6.8TeV		
	M	4		Crystal tests at 6.8TeV		
	A	4		Crystal tests at 6.8TeV - Stable beams 2100b		
	A	4		Stable beams 2100b		
	N	4		Stable beams 2100b		

	N	4		Stable beams 2100b			
8/12/2022	113						
	M	4		Klystron replacement RF line M1B2		Fri	
	M	4		Klystron replacement RF line M1B2			
	A	4		Klystron replacement RF line M1B2			
	A	4		Stable beams 2413b - 25ns_2413b_2400_1838_1845_240bpi_12inj_1INDIV			
	N	4		Stable beams 2413b			
	N	4		Stable beams 2413b - fault PC RQX.R1			
8/13/2022	114					Sat	
	M	4		Quench recovery			
	M	4		QPS OK issue S23, access			
	A	4		Stable beams 2413b - 25ns_2413b_2400_1838_1845_240bpi_12inj_1INDIV			
	A	4		Stable beams 2413b			
	N	4		Stable beams 2413b			
	N	4		Stable beams 2413b			
8/14/2022	115					Sun	
	M	4		Training quench RB56, cryo recovery			
	M	4		Quench recovery			
	A	4		Stable beams 2413b - dump on missing blowup of B1			
	A	4		Stable beams 2413b - dump on trip os S67			
	N	4		Investigations and tests on S67 trip/quench			
	N	4		Stable beams 2413b			
8/15/2022	116			WEEK 17		Mon	
	M	4		Stable beams 2413b			
	M	4		Stable beams 2413b - Fault PC RQX.R1, QHs fired			
	A	4		Quench recovery			
	A	4		Stable beams 2413b			
	N	4		Stable beams 2413b - PIC fault point 1			
	N	4		PIC fault			
8/16/2022	117					Tue	
	M	4		Compensator P8 trip and restart, lost cold compressor point 8			
	M	4		cryo recovery point 8			
	A	4		cryo recovery point 8			
	A	4		cryo recovery point 8			
	N	4		Stable beams 2413b			
	N	4		Stable beams 1900 b - SPS RF issue			
8/17/2022	118					Wed	
	M	4		Stable beams 1900b			
	M	4		Stable beams 1900b			
	A	4		Stable beams 1900b			
	A	4		UPS UA43 leaks			
	N	4		UPS UA43 leaks			
	N	4		UPS UA43 leaks			
8/18/2022	119					Thu	
	M	4		UPS UA43 leaks / compensator point 8			
	M	4		compensator point8 / cryo compressor point 8 recovery			
	A	4		compensator point8 / cryo compressor point 8 recovery			
	A	4		Dumped by RCS.A67B1 water fault at Qchange			
	N	4		Stable beams 2413b			
	N	4		Stable beams 2413b dumped by UFO			
8/19/2022	120					Fri	
	M	4		Stable beams 2413b			
	M	4		Stable beams 2413b			
	A	4		Stable beams 2413b			
	A	4		Stable beams 2413b with OP dump			
	N	4		Stable beams 2413b dumped by trip of S34 (QPS fault)			
	N	4		S34 QPS intervention			
8/20/2022	121					Sat	
	M	4		S34 QPS intervention and recovery			
	M	4		Stable beams 2413b			
	A	4		Stable beams 2413b			
	A	4		Stable beams 2413b dumped by trip of RBBCW.L1B1 (BBLR PC) earth fault			
	N	4		Stable beams 2413b			
	N	4		Stable beams 2413b dumped by trip of cryo in S81 (pressure sensor, immediate recovery)			
8/21/2022	122					Sun	
	M	4		Stable beams 2413b			
	M	4		Stable beams 2413b			
	A	4		Stable beams 2413b			
	A	4		Stable beams 2461 bunches 36 bunch trains			
	N	4		Stable beams 2461 bunches 36 bunch trains			
	N	4		Stable beams 2461 bunches 36 bunch trains			
8/22/2022	123			WEEK 18		Mon	
	M	4		Stable beams 2461 bunches 36 bunch trains			
	M	4		Stable beams 2461 bunches 36 bunch trains			BSRT calibration
	A	4		Training quench S23			36b injection
	A	4		Cryo recovery			
	N	4		Stable beams 2461 bunches 36 bunch trains			
	N	4		Stable beams 2461 bunches 36 bunch trains			
8/23/2022	124					Tue	
	M	4		Stable beams 2461 bunches 36 bunch trains			
	M	4		Stable beams 2461 bunches 36 bunch trains			
	A	4		CV stop in point 4 - loss of cryo conditions for RF			
	A	4					
	N	4					
	N	4					

					4 week stop for thermal cycle of RF cavities, modification of He overpressure release system, cavity cooldown, cavity conditioning and low-level RF setup			
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Beam commissioning plan Version 4					14/04/2022
Includes RF delay, VELO installation, scrubbing and MDs					
Date	Shift	Time	Team	Status	
4/22/2022	1			WEEK 0*	
	M	4	OP/RF/BI	Injection, threading B1&B2	
	M	4	OP/RF/BI	Injection, threading B1&B2	
	A	4	OP/RF/BI	Closed orbit and RF capture, BI setup	
	A	4	OP/RF/BI	Closed orbit and RF capture, BI setup	
	N	4	OP	Knob checks	
	N	4	OP	TI2+TI8 response & optics checks	
4/23/2022	2				
	M	4	OP	Reference orbit with probe, coarse energy matching to SPS	
	M	4	OP/BI/OMC	Orbit & Q FB commissioning, BI setup, BPM phasing	
	A	4	OP/BI/OMC	Orbit & Q FB commissioning, BI setup, BPM phasing	
	A	4	ADT	ADT excitation setup	
	N	4	OP	Precycle, Q & Q' decay measurement	
	N	4	OP	TI2+TI8 response & optics checks	
4/24/2022	3				
	M	4	OMC	Optics at injection	
	M	4	OMC	Optics at injection	
	A	4	COL	Coarse collimator setup & global injection aperture	
	A	4	COL	Coarse collimator setup & global injection aperture	
	N	4	OP	Cycle (no beam) to 6.8 TeV	
	N	4	OP	Q & Q' decay measurement after 6.8 TeV cycle	
4/25/2022	4			WEEK 1	
	M	4	RF	RF setup	
	M	4	RF	RF setup	
	A	4	OP	First ramp to 6.8 TeV	
	A	4	OP	Q & Q' decay measurement after 6.8 TeV cycle	
	N	4	OP	6.8 TeV ramp commissioning	
	N	4	OP	Q & Q' decay measurement after 6.8 TeV cycle	
4/26/2022	5				
	M	4	ADT	ADT setup with probes	
	M	4	ADT	ADT setup with probes	
	A	4	OP	Splashes on TCTs for experiments	
	A	4	OP	Splashes on TCTs for experiments	
	N	4	OP	6.8 TeV ramp commissioning	
	N	4	OP	6.8 TeV ramp commissioning	
4/27/2022	6				
	M	4	ABT	MKD waveform & synchronization	
	M	4	ABT	MKD waveform & synchronization	
	A	4	OP	Access - VIP visit CH	
	A	4	OP	Access - VIP visit CH	
	N	4	OP	6.8 TeV ramp commissioning	
	N	4	OP	6.8 TeV ramp commissioning	
4/28/2022	7				
	M	4	OP/OMC	Squeeze commissioning - to 30cm	
	M	4	OP/OMC	Squeeze commissioning - to 30cm, optics @ 30 cm	
	A	4	OP/OMC	Optics @ 30 cm	
	A	4	OP/OMC	Optics @ 30 cm	
	N	4	OP		
	N	4	OP		
4/29/2022	8				
	M	4	OP/BI	OFB / QFB tests (if needed)	
	M	4	OP/BI	OFB / QFB tests	
	A	4	OP/OMC	Precycle or ramp, MCS knob for coupling decay	
	A	4	OP/OMC	Precycle or ramp, MCS knob for coupling decay	
	N	4	OP	First VDM ramp to 6.8 TeV	
	N	4	OP	First VDM ramp to 6.8 TeV	
4/30/2022	9				
	M	4	ABT	MKI waveform & synchronization, AGK	
	M	4	ABT	MKI waveform & synchronization, AGK	
	A	4	ADT	ADT setup with probes	
	A	4	ADT	ADT setup with probes	
	N	4	ADT	ADT setup with probes	
	N	4	OP	TI2+TI8 response & optics checks	
5/1/2022	10				
	M	4	BI	BLM checks with beam	
	M	4	BI	BLM checks with beam	
	A	4	OMC	Optics at FT - local corrections	
	A	4	OMC	Optics at FT - local corrections	
	N	4	OMC	Optics at FT - local corrections	
	N	4	OP		
5/2/2022	11			WEEK 2	
	M	4	OP/RF/ABT	Injection nominal bunch, energy matching to SPS	
	M	4	OP/RF/ABT	Injection nominal bunch, energy matching to SPS	
	A	4	OP		
	A	4	OP		
	N	4	OP		
	N	4	OP		
5/3/2022	12				
	M	4	OP	K-modulation IR BPMs	
	M	4	OP	K-modulation IR BPMs	
	A	4	BI/COL	Collimator BPMs	
	A	4	OP	Reference orbit (flat)	
	N	4	OP	Reference orbit (flat)	
	N	4	OP		
5/4/2022	13				
	M	4	OP	VDM cycle commissioning	
	M	4	OP/OMC	VDM cycle commissioning	
	A	4	OP/OMC	VDM cycle commissioning	
	A	4	OP	Splashes on TCTs for experiments	
	N	4	OP	Splashes on TCTs for experiments	
	N	4	OP		
5/5/2022	14				
	M	4	COL	Injection aperture, alignment & coll tests	
	M	4	COL	Injection aperture, alignment & coll tests	

Shifts	Team	hours	shifts
	OMC	144	18
	RF	72	9
	ADT	68	8.5
	COL	116	14.5
	ABT	124	15.5
	BI	56	7
	TOTAL	580	
	OP (only)	936	117
	ECLUDE	240	30

Request	Topic	hours	shifts
	OMC	120	15
	RF & ADT	138	17.25
	COL	76	9.5
	INJ	72	9
	LBDS	58	7.25
	MPS	92	11.5
	BI	48	6
	TOTAL	604	
	Margin	60.4	
	OP	200	25
	TOTAL + OP	864.4	
	ECLUDE	240	30
	EFF LOSS	268.8	80% availability
	FMD1	96	4 days MD
	BC TOTAL	1229.2	total beam commissioning, ecloud not included
	TOTAL TIME	1344	all available hours
	MARGIN	114.8	

NON OP and non Ecloud

NON OP and non Ecloud

10% contingency for repetitions, new requests

Team	Activity	Contact	
BI/ABT	Direct dump BLM	C. Zamantzas	
BI	Tail scrapping for BLMD lifetime calibration	B. Salvachua	
BI	Scrapping with trains for DBLMs	B. Salvachua	
OP	IQC interlock logic	Jorg & Delphine	
RF/OP	ADT intensity interlock logic	Jorg & Martin	
ABP/OP	BBLR polarity check at injection (with probe beam)	Delphine, Jorg, G. Sterbini	
ABP/OP	Test of BBLR knob at 6.8 TeV (1.3m, 60cm, 30cm) with probe	Delphine, Jorg, G. Sterbini	
OP/BI	BBB orbit acquisition test	Jorg (& BI if issues)	
OP/BI	Gated BBQ timing in and test	Jorg & Tom	
COLL/ATLAS	Horizontal muons by scraping on TCT	R. Bruce	Not May 30th or 31st

LHC experiments requests for beam commissioning		
Splashes		
CMS	40 / side	probe bunch intensity, 5E9
ATLAS	25-30 / side	probe bunch as low as possible from SPS, 2E9-3R9
ALICE	20 / side	range of intensities 2E9 - 1E10
Collisions @ injection		
CMS	2+ periods of 12h xing = 0	periods separated by at least 2 days for later BB / NL studies
ATLAS	2+ periods of 8h xing = 0	periods separated by 1 week for later BB / NL studies
	AFP insertion	
	1 period	close to the 13.8 TeV stable beams
LHCb	3+ periods of 8h spectro ON	DAYTIME (for first 3) separated by some days
	SMOG2 ON	test SMOG2 some days before
Injection collisions configuration:		Set it up without crossing angle in ATLAS and CMS , to be reused for other studies
MP tests		
LHCb	VELO intlk tests	~20 interlocks, no need for armed BP loop?
	BCM tests	TDI shots, in May
ATLAS	Background tests	Test parasitically with loss maps Circulating pilot with grazing TCT and ADT excitation for 100 Hz // muons
Special requests		
ALICE	Magnet scan	During the first ramp up fills, one fill each
	Sol at 0.5 T	Spectrometer nominal +
	Sol at 0.2 T	Spectrometer nominal +
	Sol+Spectrometer OFF	
	Sol at -0.2 T	Spectrometer nominal -
	Sol at -0.5 T	Spectrometer nominal -
ATLAS	early low pile-up fill	at 600 b step

	OP		
	Injection		Time [h]
	Orbit with probes and with nominals	8	
	Orbit with bumps	8	
	Spectrometers	6	
	Energy matching	6	includes tests of temporary use of knob at injection
	Various checks (knobs etc)	16	
	K-modulation for BPM offsets	12	
	Injection steering and setup for trains	16	
	Fidel & decay measurements	12	
	Total	84	
	Ramp & squeeze		
	Nominal cycle ramp & squeeze setup & cleaning	24	
	Nominal cycle with bumps	6	
	VDM cycles ramp setup and cleaning	12	
	VDM cycle with bumps	4	
	90m cycle ramp and squeeze setup and cleaning	12	
	Collisions		
	Collisions at injection	8	
	Collisions nominal cycle	8	
	Collisions VDM cycle	6	
	Tests with experiments (BCMs, VELO etc)	12	
	Beta* levelling tests	24	
	Total	116	
	Grand total	200	

	OMC			
	Reference Evian (Tobias)	https://indico.cern.ch/event/1077835		
	Injection		Time [h]	
		Validate global corrections from beam test	4	
		MCS feeddown on coupling - new b3 knob	4	
		MCD and MCO corrections	8	
		Ballistic optics	12	requires commissioning (threading, orbit etc)
		60 degrees optics	12	requires commissioning (threading, orbit etc)
		Total	40	
	Flat top, squeezed and collisions			
		Local error measurements	12	
		Global corrections, refine local, refine non-linear	24	
		Ramp, 60-30 cm	12	with 3 bunches
		Higher order feeddown	8	with 3 bunches
		Waist & coupling scans with colliding beams	12	
		VDM optics measurements and corrections	12	
		Total	80	
		Grand total	120	

	RF			
	LBOC March 10th 2020	https://indico.cern.ch/event/875602/		
	Injection		Time [h]	
		Capture	4	
		Delays & buckets	4	
		RF loops & phasing	8	
		RF loop optimization	8	
		Tomograph	8	
		Energy matching SPS	4	OP & RF
		RF loop optimization and tuning	8	
		Pre-detuning with batched beams	16	
		Total	60	
	Ramp			
		BC & blowup	16	
	Adjust			
		Collision point ajustement	0	parasitic
		Total	16	
	ADT			
	LBOC March 10th 2020	https://indico.cern.ch/event/875602/		
	Injection			
	probe	Parasitic / parallel setup of BPMs	0	
		First setting up with 1 bunch and orbit bumps	8	1 pilot / beam in bucket 1
		Setting up of excitations (blowup, AC-dipole)	4	few pilots
		Setting up all BPMs with orbit bumps	8	few pilots
	nominal	Setup and calibration with orbit bumps	8	1 nominal / beam in bucket 1
		Setting up of trasverse feedback	8	
	25 ns	Setup and tuning	8	
		Injection cleaning	6	
		Abort gap cleaning	6	
		Total	56	
	Flat top			
		Abort gap cleaning	6	
		Total	6	
		Grand total	138	

	Collimation and aperture		
	Injection		Time [h]
		TCP+TCSP6 alignment	4
		Coarse loss map	4
		Full setup	8
		BPM collimators	2
		New ML & // alignment	2
		Global aperture	8
		Validation of new crystals	12
		Total	40
	Flat top		
		Full setup	8
		Impedance tests	8
		Local apertures	12
		TCT + TCL squeeze & collisions	8
		Total	36
		Grand Total	76

	Injection			
		Time [h]		
	Verification of injection timing, AGK		Done under LBDS	
	Injection correction, steering, screens etc.	16	With OP, multiple phases	
	Aperture MSI and injection region	8		
	Setting up TCDIL	8		
	Setting up TDIS & TCLI	8		
	Check of TCDIL virtual beta*	0		
	Validation of injection protection	8		
	MKI waveform scans	12		
	Check IQC working properly, interlock on injection oscillations	4		
	Blindable BLMs	8		
	Set-up of injection gap and abort gap cleaning at injection		under ADT	
	Grand Total	72		
	For phases after first stable beams:			
	Set-up injection of trains, 25 ns and during intensity increase	16	With OP	

	LBDS		
	Injection		Time [h]
		Dump trajectory 450 GeV, different buckets	2
		Dump region aperture	8
		MKD waveforms	12
		AGK set-up	8
		Set-up TCDQ and TCSG with beam at 450 GeV	8
		Calibration of losses on TCDQ & TCDS	4
		Reference measurements to be checked against in case of 'big' asynch dump	8
		Set-up IR6 interlock BPMs	4
		Direct BLM check with beam	
			part of MPS
		Set-up of abort gap cleaning	
			part of ADT
		Total	54
	Ramp, flat top		
		TCDQ set-up at top energy	4
		Total	4
		Grand Total	58

Commissioning tests with beam			
FCCM		Time (h)	Comment
	Simulate PC failure with probe beam	1	End of fill dumps
	To be done on RD1.D1, RD34, MQW		
	All FCCMs at injection	4	
	RMSI test with varying threshold	2	NO beam, presence of people in IP2 (30min) and IP8 (30min)
BLM			
	Transmission time, MPS functionality @ 450 GeV	6	Move in collimator and check delay & functions. Repeat with injection
	Same at 6.5TeV	1	If at the end of a fill
	Direct dump BLM	12	needs at least 2 accesses
	TCP BLM calibration for lifetime - injection	6	
	TCP BLM calibration for lifetime - flat top	4	eof
BCCM			
	Trigger test at injection	4	
SIS			
	Provoque orbit change on each beam and plane, check interlock	1	Injection
		1	collisions
	Check bucket and ring interlocks	2	Injection
	RB trip check	2	Injection, needs pre-cycle
	Abort gap on/off	0	Could be transparent during setup of the abort gap cleaning
	Collimator BPMs	2	Check interlocks in collimator BPMs
	Other dedicated SIS tests	8	
SMP			
	BPF limits check	2	Inject and scrape probes
	SBF limit at injection	2	Inject intensity in steps and check the SBF flags
	SBF evolution in the ramp	0	Normalu parasitic - check SBF state change in the ramp, test changes at FT
Cycle validations			
	Nominal cycle validation	24	
	VDM cycle validation	8	
	Grand Total	92	

	BI & Feedbacks					
	Orbit		Time	Comment		
		BPM phasing	6			
		Check OFB loop	8	injection		
		OFB ramp and squeeze		Parasitic with first ramp - to be added to test system		
		OFB with MCBX	4	test at injection		
		OFB response at FT	1			
	Tune					
		Check QFB loop	2			
		Tune filters and settings	4	can be mostly parasitic		
		Ramp tests with Q functions	4	tbc		
		QFB response at FT	1			
	WS and BSRT					
		WS tests	6	dedicated		
		Calibration fill WS-BSRT	12			
		Undulator?				
		Grand Total	48			

BIS channels to be jumpered out for the machine checkout					
BIC device name	Location	Channel #	Channel description	Motivation	
CIB.CCR.LHC.B1	CCR	5	Access	Access LHCb	
CIB.CCR.LHC.B2	CCR	5	Access	Access LHCb	
CIB.UA27.R2.B1	2	1	Vacuum B1	Training S23	
		5	PIC_UNM	Training S23	
CIB.UA27.R2.B2	2	1	Vacuum B2	Training S23	
		5	PIC_UNM	Training S23	
CIB.UA23.L2.B1	2	5	PIC_UNM	Training S23 - coupling L2-R2 in PIC	
CIB.UA23.L2.B2	2	5	PIC_UNM	Training S23 - coupling L2-R2 in PIC	
CIB.UJ33.U3.B1	3	1	Vacuum B1	Training S23	
		4	ACCESS_SB	Access LHCb	
		5	PIC_UNM Left	Training S23	
		6	PIC_UNM Right	Training S23 - coupling L3-R3 in PIC	
		7	WIC	Access LHCb >> RD34.LR3	
CIB.UJ33.U3.B2	3	1	Vacuum B2	Training S23	
		4	ACCESS_SB	Access LHCb	
		5	PIC_UNM Left	Training S23	
		6	PIC_UNM Right	Training S23 - coupling L3-R3 in PIC	
		7	WIC	Access LHCb >> RD34.LR3	
CIB.UA43.L4.B1	4	1	Vacuum B1	RF cryo issue	
CIB.UA43.L4.B2		1	Vacuum B2	RF cryo issue	
CIB.UA47.R4.B1		1	Vacuum B1	RF cryo issue	
CIB.UA47.R4.B2		1	Vacuum B2	RF cryo issue	
CIB.UA63.L6.B1	6	1	Vacuum B1	Dump line vacuum	Restored on 07.04.2022
CIB.UA63.L6.B2		1	Vacuum B2	Dump line vacuum	Restored on 07.04.2022
CIB.UA67.R6.B1		1	Vacuum B1	Dump line vacuum	Restored on 07.04.2022
CIB.UA67.R6.B2		1	Vacuum B2	Dump line vacuum	Restored on 07.04.2022
CIB.TZ76.U7.B1	7	7	WIC	Access LHCb >> RD34.LR7	
CIB.TZ76.U7.B2		7	WIC	Access LHCb >> RD34.LR7	
CIB.UA83.L8.B1	8	6	Vacuum B1B2	LHCb VELO	
CIB.UA83.L8.B2		6	Vacuum B1B2	LHCb VELO	
CIB.UA87.R8.B1		6	Vacuum B1B2	LHCb VELO	
CIB.UA87.R8.B2		6	Vacuum B1B2	LHCb VELO	
CIB.SR2.INJ.1	2	1	INJ1-2	MKI/injection commissioning decouple from experiments	
		2	LHC Beam 1 permit	Decouple injection and LBDS tests	
CIB.SR8.INJ.2	8	1	INJ2-2	MKI/injection commissioning decouple from experiments	
		2	LHC Beam 2 permit	Decouple injection and LBDS tests	

Week	Date	Access status	Main activities	Comment
WK12	23/03/2022	Access 9-17	CV over-pressure test ATLAS (5pm)	
	24/03/2022	Access 9-12	CV over pressure CMS (M), Intercom (2pm-4pm), Exp & machine patrolled at 17:00, then machine to beam mode	
	25/03/2022	Mach+ Exp closed	DSO tests, machine in beam mode	
	26/03/2022	Mach closed	General checkout, cycle tests	
	27/03/2022	Mach closed	General checkout, cycle tests	
Week	Date	Access status	Main activities	Comment
WK13	28/03/2022	Mach+ Exp closed	OP preparations: BIS loop & LBDS arming, injection	LHCb cavern access possible week 13, access for RF to point 4 every morning 09:00-09:30
	29/03/2022	Mach+ Exp closed	LBDS BETS	
	30/03/2022	Access 9-17		
	31/03/2022	Access 9-17		
	01/04/2022	Mach+ Exp closed	Injection checkout, IQC, LBDS BETS	
	02/04/2022	Mach closed	Training, remaining powering tests	
	03/04/2022	Mach closed	Training, remaining powering tests	
Week	Date	Access status	Main activities	Comment
WK14	04/04/2022	Mach+ Exp closed	Injection, TL, TL collimators	
	05/04/2022	Mach+ Exp closed	LBDS , LBDS XPOC	
	06/04/2022	Mach+ Exp closed	LBDS BETS	
	07/04/2022	Access 9-17	No access in point 4 until ~11:00 (LASS maintenance)	Visit of croatian President (CMS+tunnel pt 5)
	08/04/2022	Mach+ Exp closed	RP interlock tests (M) - Inj, LBDS (A)	
	09/04/2022	Mach+ Exp closed	LBDS and machine reliability run	
	10/04/2022	Mach+ Exp closed	LBDS and machine reliability run	
Week	Date	Access status	Main activities	Comment
WK15	11/04/2022	Access 9-17	ALICE 48h, UPR sumps	Start of ATLAS toroid commissioning
	12/04/2022	Access 9-17	ALICE 48h, UPR sumps, UJ6x intercoms	
	13/04/2022	Mach+ Exp closed	T12/T18 beam tests	
	14/04/2022	Mach+ Exp closed	Inj, LBDS, cycle & reliability	
	15/04/2022	Mach+ Exp closed	LBDS and machine reliability run -tbc	
	16/04/2022	Mach closed		
	17/04/2022	Mach closed		
Week	Date	Access status	Main activities	Comment
WK16	18/04/2022	Mach closed		
	19/04/2022	Access 9-17	BIS configuration to nominal, checkout finish line	IR7 door repair
	20/04/2022	Access 9-12	Last access before machine closure	IR7 door repair
	21/04/2022	Mach+ Exp closed	BIS+LBDS final tests, full machine cycles	Accelerator mode BEAM SETUP
	22/04/2022	Beam	Beam operation	
	23/04/2022	Beam	Beam operation	
	24/04/2022	Beam	Beam operation	
WK17	25/04/2022	Beam	Beam operation	
	26/04/2022	Beam	Beam operation	
	27/04/2022	Beam	Beam operation	
	28/04/2022	Beam	Beam operation	
	29/04/2022	Beam	Beam operation	
	30/04/2022	Beam	Beam operation	
	01/05/2022	Beam	Beam operation	

Week	Date	Access status	Main activities	Comment
WK12	23/03/2022	Access 9-17	CV over-pressure test ATLAS (5pm)	
	24/03/2022	Access 9-12	CV over pressure CMS (M), Intercom (2pm-4pm), Exp & machine patrolled at 17:00, then machine to beam mode (test)	
	25/03/2022	Mach+ Exp closed	DSO tests, machine in beam mode	
	26/03/2022	Mach closed	General checkout, cycle tests	
	27/03/2022	Mach closed	General checkout, cycle tests	
WK13	28/03/2022	Mach+ Exp closed	OP preparations: BIS loop & LBDS arming, injection	LHCb cavern access possible week 13
	29/03/2022	Mach+ Exp closed	Injection, TL, TL collimators	
	30/03/2022	Mach+ Exp closed	LBDS BETS	
	31/03/2022	Mach+ Exp closed	LBDS , LBDS XPOC	
	01/04/2022	Mach+ Exp closed	Spare BIS+LBDS+Injection	Daytime access may be possible
	02/04/2022	Mach+ Exp closed	General checkout, cycle tests	Access may be possible to exp caverns (tbc)
	03/04/2022	Mach+ Exp closed	General checkout, cycle tests	Access may be possible to exp caverns (tbc)
WK14	04/04/2022	Access 9-17	QPS cards S23, BIS configuration to nominal, LBDS in LASS chain	Start of ATLAS toroid commissioning
	05/04/2022	Access 9-17	QPS cards S23, BIS configuration to nominal, BIS ISTs	
	06/04/2022	Access 9-17	QPS cards S23, missing vacuum interlocks	
	07/04/2022	Mach+ Exp closed	Final checkout, BIS ISTs, T12/T18 beam tests	Visit of croatian PM (CMS+tunnel pt 5)
	08/04/2022	Mach+ Exp closed	Possible early start of beam commissioning or T12/T18 beam tests	
	09/04/2022	Mach+ Exp closed	Checkout or beam commissioning	
	10/04/2022	Mach+ Exp closed	Checkout or beam commissioning	
	WK15	11/04/2022	Mach+ Exp closed	Checkout or beam commissioning or T12/8 tests
12/04/2022		Mach+ Exp closed	Checkout or beam commissioning or T12/8 tests	
13/04/2022		Beam	Official start of beam commissioning	
14/04/2022		Beam	Beam commissioning	
15/04/2022		Beam	Beam commissioning	
16/04/2022		Beam	Beam commissioning	
Easter	17/04/2022	Beam	Beam commissioning	
	Comment:	Access 9-17	the access time limits applies to TUNNEL access	
	Comment:		QPS card access in week 14 may shift according to progress of S23 training & checkout	

Day	Shift	Phase	Time	Group	Activity	Comments	
1	SUN 5/4	M	Injection-probe	8	OP	Injection, threading B1&B2	
1	SUN 5/4	A	Injection-probe	6	OP/BI	Closed orbit and RF capture B1&B2, tune, Q' and coupling	
1	SUN 5/4	N	Injection-probe	4	RF	RF - delays, buckets first pass	B1 OK
1	SUN 5/4	N	Injection-probe	2	BI	BI: BPM, Tune, Chromaticity, dispersion	Looking better, good tune signals, chromaticity via RF modulation, closed orbit BPMs
1	SUN 5/4	N	Injection-probe	8	OP	Orbit corrector polarity	Overnight - looks good - BPM outliers in CO
2	MON 6/4	M	Injection-probe	4	OP	Reference orbit with probe	Flat machine, set-up TCTs for splashes (SR/BS)
2	MON 6/4	M	Injection-probe	4	OP/BI	Orbit & tune FB first commissioning, BI	First trials plus BPM phasing (70% complete)
2	MON 6/4	A	Injection-probe	8	RF	RF - delays, buckets, loops 1/2	B2 OK
2	MON 6/4	N	Injection-probe	8		Splashes/Orbit corrector polarity	Bunch 1 etc. PB/AB - beam 2 to do Postponed: MKI vacuum problem + earth fault S23
3	TUE 7/4	M	No beam	8		Access for earth fault in S23, vacuum issues in P12/P17	Plus SPS interventions
3	TUE 7/4	A	Injection-probe	4	OP/BI	BPM phasing (and multi-turn acquisition)	Mandatory before optics measurements (Also check the AC dipole with beam)
3	TUE 7/4	A	Injection-probe	4	OP/COLL	Splashes ATLAS / CMS	ATLAS & CMS - min. 20 shots each side - Stefano/Belen max 5e9
3	TUE 7/4	N	Injection-probe	4	OMC	Optics measurements	
3	TUE 7/4	N	Injection-probe	4	OP	Orbit corrector polarity	
4	WED 8/4	M	No beam	8	MP	Machine protection tests (LBDS)	(partly during SPS access for coldex problem and RF transmitters)
4	WED 8/4	A	Injection-probe	2	ABT	LBDS: loops, both beams	
4	WED 8/4	A	Injection-probe	4	ABT	AGK set-up and MKD rise time measurement, check final settings and interlocking	Nicolas Magnin, Etienne - inject and dump
4	WED 8/4	A	Injection-probe	4	OP/BI	BPM phasing	OK for optics measurements.
4	WED 8/4	N	Injection-probe	8	OP	Tune and orbit feedback tests in //	
4	WED 8/4	N	Injection-probe	8	OP	Optics cont'd, if BI OK. Otherwise, polarity checks (higher orders)	Overnight - to finish
5	THU 9/4	M	Injection-probe	4	COLL	Coarse collimator set-up and loss map (1/3 integer tune)	Before first ramp, 2 TCP, TCSG, ramp functions, 20/25 sigmas
5	THU 9/4	M	No beam	4	MP	Continue test program	
5	THU 9/4	A	Injection-probe	4	OP/BI	Tune and orbit feedback commissioning	
5	THU 9/4	A	Ramp-probe	4	OP	First ramp attempt	non-colliding bunches;
5	THU 9/4	N	Injection-probe	8	OP	450 GeV decay measurements	
6	FRI 10/4	M	No beam	6		ACCESS	
6	FRI 10/4	M	Injection-probe	1	ABT	AC dipole commissioning	
6	FRI 10/4	M	Injection-probe	8	RF	RF phasing & loop set-up	PB and team
6	FRI 10/4	N	Injection-probe	8	OMC	450 GeV optics correction & checks	Rogelio and team
7	SAT 11/4	M	Injection-probe	8	OP	Ramp - 2 pilots to 6.5 TeV	Coarse collimators, tune and orbit first pass
7	SAT 11/4	A	Injection-probe	8	ADT	ADT set-up 1/4 - orbit clean-up	Blow-up
7	SAT 11/4	N	Injection-probe	8	COLL/OP	Collimator ramp interlock tests (Belen and team)	
8	SUN 12/4	M	Ramp-probe	8	OP	Precycle and ramp(s)	Tunes, orbit, dump in ramp for LBDS
8	SUN 12/4	A	Injection-probe	8	ABT	Aperture MSI and injection region	Wolfgang and Chiara confirmed
8	SUN 12/4	N	Flattop-probe	8	OMC	Ramp, measure and correct optics on FT	flat machine, reference orbit - lost to quench
9	MON 13/4	M	No beam	6		Access in shadow of quench recovery: ADT, RF, BI various	
9	MON 13/4	A	Injection-probe	4	OP	S81 local aperture	No restrictions found in H and V
9	MON 13/4	A	Injection-probe	4	MP	Machine protection tests 2/3	Flags, SIS etc
9	MON 13/4	A	Injection-probe	4	ABT	MKI waveform scan IP2	
9	MON 13/4	N	Injection-probe	8	OP	Dumps at different energies (0.45 TeV, 1 TeV, 2 TeV, 3.5 TeV)	
10	TUE 14/4	M	Injection-probe	6		Access in shadow of quench recovery: ADT, RF, BI, CMS, etc.	
10	TUE 14/4	A	Injection-probe	8	ABT/ADT	MKD waveform, AGK set-up	Other beam available for work in parallel
10	TUE 14/4	N	Injection-probe	8	MP	Dump at different energies (6.5 TeV) and other tests for MUFO studies	
11	WED 15/4	M	Injection-probe	8	OP	Access	
11	WED 15/4	A	Injection-probe	4	OP/ADT	OFB, BPM checks, ADT test, FWS test	
11	WED 15/4	N	Injection-probe	2	RF	Blow-up in ramp	
11	WED 15/4	N	Injection-probe	6	OMC	Optics measurements at 6.5 TeV on Beam 1	
12	THU 16/4	M	Injection-probe	8		Access	
12	THU 16/4	A	Injection-probe	8		Access and SPS Coldex intervention	
12	THU 16/4	N	Injection-probe	8	OMC	Optics measurements at flat top (B2) and injection	
13	FRI 17/4	M	Injection-probe	8	ABT/ADT	MKI waveform scan IP8, ADT tests	Other beam available for work in parallel
13	FRI 17/4	A	Injection-probe	8	ABT	MKI waveform scan IP8	
13	FRI 17/4	N	Injection-probe	8	OP	MUFO tests: 30 bunches at injection with different patterns and H bumps	Increase of beam screen temperature to 80 K. Back to about 20 K on Saturday at midday
14	SAT 18/4	M	Injection-probe	8	OP	Orbit correction and K-modulation in IR2, 8	
14	SAT 18/4	A	Injection-probe	8	ABT	Beam dump aperture checks, TDI and TL collimators	
14	SAT 18/4	N	Injection-probe	8	OP	MUFO tests at injection and 6.5 TeV	Planned chromaticity measurements could not be performed
15	SUN 19/4	M	Injection-nominal	8		Access (cryo and AGK)	Linac 2 and cryo problem
15	SUN 19/4	A	Injection-nominal	8			Linac 2 and cryo problem
15	SUN 19/4	N	Injection-nominal	8			Linac 2 and cryo problem
16	MON 20/4	M	Injection-probe	8		Access (MKIs in P2/8 and other requests)	Linac 2 and cryo problem
16	MON 20/4	A	Injection-probe	4	OP/ATB	Check MKI delays with AGK, B2 aperture in cell 15-R8	
16	MON 20/4	A	Injection-probe	4		Access for MKIs	MKI2 problem
16	MON 20/4	N	Injection-probe	8	OP	B2 aperture in cell 15R8, ramp to 6.5 TeV	Found ULO at the bottom of the chamber
17	TUE 21/4	M	Injection-nominal	8	OP/RF	Injection of nominal bunch, capture and orbit	
17	TUE 21/4	A	Injection-nominal	8	RF/ADT	ADT setup	
17	TUE 21/4	N	FT-probe	8		Ramp to 6.5 TeV for MUFO monitoring	No beam from CPS as of 03:00
18	WED 22/4	M	Injection-nominal	8	OP	IR bumps and spectrometer magnets	
18	WED 22/4	A	Injection-nominal	4	OP	IR bumps - continued	
18	WED 22/4	A	FT-probe	4	OP	Ramp to 6.5 TeV with bumps ON for MUFO monitoring	
18	WED 22/4	N	Injection-nominal	6	OMC	Injection optics revisited	
19	THU 23/4	M	No beam	5		Recovery from trip	
19	THU 23/4	M	Injection-nominal	3	COLL	Aperture at injection 15R8	
19	THU 23/4	A	FT-probe	4		Ramp to 6.5 TeV, aperture at 6.5 TeV	SPS mains problems
19	THU 23/4	A	FT-probe	4	OP/COLL	OFB checks injection, ramp to 6.5 TeV, aperture at 6.5 TeV	
19	THU 23/4	N	Injection-nominal	8	OP/BI	BI setup (ws, bsrt...)	
20	FRI 24/4	M	Injection-nominal	8	OP/COL	Collimation setup	
20	FRI 24/4	A	Injection-nominal	8	OP/COL	Collimation setup, start TCDQ	
20	FRI 24/4	N	FT-probe	8	OP	Ramp to 6.5 TeV for MUFO/ULO monitoring, k-mod	2 FTs killed by MUFOs, one by trip
21	SAT 25/4	M	Injection-nominal	3	OP	TDI/TCDQ alignment	
21	SAT 25/4	M	Injection-probe	6		S23 trip and access for QPS	Launch warm up of BS to 80K
21	SAT 25/4	A	Injection-nominal	5	ABT	TDI/TCDQ alignment	
21	SAT 25/4	N	FT-probe	7	OP	Ramp to 6.5 TeV for MUFO/ULO monitoring	
22	SUN 26/4	M	Injection-probe	5	OP/COL	Aperture measurement in 15R8	
22	SUN 26/4	M	Injection-nominal	3	ABT	TCDQ alignment, collimator BPM tests	
22	SUN 26/4	A	Injection-probe	8	ADT	ADT setup - next iteration	
22	SUN 26/4	N	Injection-nominal	3	ADT	ADT setup - next iteration	
22	SUN 26/4	N	FT-probe	5	OP	Ramp to 6.5 TeV for MUFO/ULO monitoring	
23	MON 27/4	M	Squeeze-probe	3	OP	Attempt to de-squeeze	

23	MON 27/5	M	No beam			Access - LBDS et al			
23	MON 27/4	A	Injection-nominal	8	ABT/ABP	TDI beam 1/aperture checks beam 2 until midnight			B2 LBDS switch change plus tests
23	MON 27/4	N	FT-probe	8	OP/ABP	6.5 TeV - aperture - MUFO checks			
24	TUE 28/4	M	Injection-nominal	4	OP/BI	K-modulation, BCT, ADT-chirp			
24	TUE 28/4	M	FT-probe	2	BI	BSRT, BPMS, blow-up in ramp			
24	TUE 28/4	A	No beam	12	RF	Cryogenics down - access in shadow			
24	TUE 28/4	N	Injection-probe	6	OP/ABP	Recovery - 15R8 aperture scan			
25	WED 29/4	M	Injection-nominal	6	BI	Interlocked BPM commissioning - machine protection tests			
25	WED 29/4	M	Injection-nominal	3	COL	15R8 aperture BS warm			
25	WED 29/4	A	Injection-nominal	1	RF	Longitudinal blow up			
25	WED 29/4	N	Injection-nominal	2	COL	15R8 aperture BS cold			
25	WED 29/5	N	Injection-nominal	4	COL	Loss maps B1 450 GeV plus B2 revisited - nominal bunches			Cryo issues various
26	THU 30/5	M	FT-pilot	6	OP/COL	2 pilots - gentle loss maps at FT - unmasked			
26	THU 30/5	A	Injection-nominal	2	BI	BPMSX tests			
26	THU 30/5	A	FT-pilot	4	OP/COL	Ramp 2 probes - further tests on flat-top			
26	THU 30/5	A	Injection-nominal	4	BI	BPMSX tests			
26	THU 30/5	N	Injection-nominal		COL	Collimator set-up tests 2 - 4 hours 450 GeV			
27	FRI 1/5	M	FT-probe	6	OP	15R8 scan			
27	FRI 1/5	M	No beam	2		Access			
27	FRI 1/5	A	Injection-nominal	2	OP	ALICE solenoid			
27	FRI 1/5	A	Injection-nominal	8	ABT	TDI set-up continued - both beam in \\\			5 hours - INDIV@450 GeV plus alignment checks/TCDQ
27	FRI 1/5	N	Squeeze-pilot	8	OP	Squeeze commissioning to 80 cm			
28	SAT 1/5	M	No beam	10		major event from 05:18 - 48 V/400 V point 5 plus knock on to cryo			Access for AC dipole, LVDT TDI point 2 in shadow
28	SAT 1/5	A	No beam	5		major event: network router plus knock-on			
28	SAT 1/5	A	FT-nominal	4	OP	single nominal to FT			
28	SAT 2/5	N	Squeeze-probe	8	OP	Squeeze to 40 cm			
29	SUN 3/5	M	Squeeze-probe	4	OMC	Squeeze: optics measurements at 40 cm			
29	SUN 3/5	A	Injection-nominal	5	ABT	TDI set-up continued			Lower jaws, both beams in \\\
29	SUN 3/5	A/N	No beam	12		BLM HV problem - point 6			
29	SUN 3/5	N	Squeeze-pilot	4	OP	Squeeze			
30	MON 4/5	M	Squeeze-pilot	4	OP	Squeeze: optics measurements			
30	MON 4/5	A	No beam	8		Power supply problem - access in shadow			
30	MON 4/5	A/N	No beam	7		BLM problem continued			
31	TUES 5/5	M	FT-probe	4	OP	15R8 scan 6.5 TeV			
31	TUES 5/5	M	Injection-probe	2	OP	K-modulation Point 4 @ 450 GeV			
31	TUES 5/5	A	Injection-nominal	5	OP	Collisions 450 GeV, find collisions and TCT set-up			Loss maps to be done, but experiments took data
31	TUES 5/5	A/N	No beam	13		SPS dipole change			
32	WED 6/5	M	No beam	7		SPS dipole change			
32	WED 6/5	A		9	OP/COLL	Loss maps and collisions at 450 GeV			
32	WED 6/5	N	Injection-nominal	8	OP	Chromaticity measurements			OMC activities cancelled
33	THU 7/5	M/A	Injection-nominal	9	ABT	Injection protection set-up TDI			
33	THU 7/5	A	Injection-nominal	6	OP	Loss maps injection with and without injection protection			
33	THU 7/5	N	Squeeze-probe	4	OMC	Optics correction and measurement through the squeeze			Only 2 hours as beam lost
33	THU 7/5	N	Squeeze-probe	5		QPS problem followed by MKI problem			
34	FRI 8/5	M/A	No beam			Injection kicker issue - point 2			
34	FRI 8/5	A/N	Injection-nominal		ABT	Injection protection set-up TCDI			First part done
34	FRI 8/5	A	Injection-nominal		RF	ADT setting up (nominal bunches)			from 20:00
34	FRI 8/5	N	Ramp-probe		OP	Q' decay and snapback			Noisy measurement
35	SAT 9/5	M	Injection-probe	8	OP	Desqueeze			
35	SAT 9/5	A	Injection-nominal	8	COL	Local aperture at 450 GeV			Stefano and team
35	SAT 9/5	N	No beam	8		Cryo S12 - initiating fault - raw water pumps BA6			
36	SUN 10/5	M	No beam	12		Cryo S12 - initiating fault - raw water pumps			
36	SUN 10/5	A	No beam	4		Cryo S12 - initiating fault - raw water pumps			
36	SUN 10/5	N	Nominal-ramp	8	OP	Ramp nominal			
37	MON 11/5	M/A	Pilot-squeeze	12	OMC	Optics correction at FT and in squeeze - OMC			
37	MON 11/5	A/N	Injection-nominal	4	ABT	TCDI setup for T18			RF FGC problem
37	MON 11/5	N	Ramp-probe	4		Nominal ramp with optics correction			RF FGC problem, electrical glitch cryo off
37	TUE 12/5	M	Injection-nominal	8		Recovery from electrical glitch			
37	TUE 12/5	A	Injection-nominal	8		Recovery from electrical glitch			
37	TUE 12/5	N	Ramp-probe	8	OP	Ramp with optics correction			
38	WED 13/5	M	Pilot-squeeze	8	OP/ADT	ADT setup, gated BBQ, ramp 2 nominal bunches			
38	WED 13/5	A	Injection-nominal	8		Fill machine with many nominal bunches			Cryo in ITL5, interlock BPMS
38	WED 13/5	N	Ramp-probe	8	OP	De-squeeze clean-up (Q,Q', coupling, orbit)			
39	THU 14/5	M	Ramp-nominal	8	OP/BI	Ramp nominal bunch, wire-scanner on both beams			Not fully completed
39	THU 14/5	M/A	Injection-nominal	10					Training quench C12.R3
39	THU 14/5	A	Injection-nominal	4					Training quench C12.R3
39	THU 14/5	N	Ramp-nominal	8	OP	Squeeze clean-up (Q,Q', coupling, orbit)			
40	FRI 15/5	M		2		PS no beam			
40	FRI 15/5	M	Ramp-nominal	8	OP/COL	Collimator alignment on flat top			
40	SAT 16/5	A	Injection-nominal	4	OP	Multiple bunches at injection (40 bunches)			
40	FRI 15/5	N	Injection-nominal	4	OP/RF	Longitudinal batch-by-batch blow-up test, RF impulse response (450 GeV)			
40	FRI 15/5	N	Ramp-probe	4	OP	Tune decay measurement			
41	SAT 16/5	M/A	Injection-nominal	10	ABT	TCDI alignment T12, TCDI validation T18			
41	SAT 16/5	A		4					S12 QPS problem
41	SAT 16/5	N	Ramp-probe	7	OMC	Optics measurements and corrections during squeeze			But not finished yet ...
42	SUN 17/5	M	Injection-nominal	3	COL	TCLA alignment check			
42	SUN 17/5	M	Injection-nominal	8	COL	Local aperture measurement			
42	SUN 17/5	A	Injection-nominal	2	ADT	Damper B1V BPM check			
42	SUN 17/5	N	Ramp-probe	8	OP	De-squeeze cleaning & optics measurement at end point			
43	MON 18/5	M	Injection-nominal	4	ADT	ADT B1V BPM check, collision tunes			
43	MON 18/5	M	Injection-nominal	4		TCDI T12 alignment and validation			Postponed: problem at the SPS
43	MON 18/5	A	Ramp-nominal	8	COLL/OP	Collimation ramps: pilot then nominal + loss maps at 6.5TeV			
43	MON 18/5	N	Ramp-probe	8	OP	Ramp: decay & snapback			
44	TUE 19/5	M	Injection-nominal	8	COL	Global aperture at injection			To be finished and repeated with octupoles off. Interrupted by a quench in 67 (qps trigger from losses?)
44	TUE 19/5	A	Ramp-nominal	8	ABP	Miscellaneous : emittance at injection and during ramp. Sequences for coll ramps.			

44	TUE 19/5	A	Ramp-nominal	8	ABP	SnapBack followed by ULO scans at flat top		
45	WED 20/5	M	Ramp-probe	8	OMC	Optics corrections in the squeeze 40-80 cm & cleaning of IR orbit		
45	WED 20/5	A	No beam	4		Access		
45	WED 20/5	A	Squeeze-nominal	6	OP/COL	De-squeeze collimation set-up		
45	WED 20/5	N	Squeeze-nominal	8	OP	De-squeeze asynch dump		
46	THU 21/5	M	Squeeze-nominal	8	OP/COL	De-squeeze test collisions		
46	THU 21/5	A	Irj-nominal	8	ABT	TCDI T12 alignment and validation		
46	THU 21/5	N	Ramp-nominal	8	ABP	Impedance/octupoles single-bunch stability 1/2		Elias et al
47	FRI 22/5	M	Squeeze-pilot	8	OMC	Optics squeeze - measurements		Note: squeeze in one step
47	FRI 22/5	A	Irj-nominal	4	COLLRF	Off-momentum loss maps		
47	FRI 22/5	A	Ramp-nominal	4	ABP	Impedance/octupoles single-bunch stability 2/2		
47	FRI 22/5	N	Ramp-nominal	2	OP	Dump at 5 TeV		
47	FRI 22/5	N	Ramp-nominal	2	OP	Nominal ramp with nominal bunches (ADT sequence tests)		
47	FRI 22/5	N	Ramp-pilot	4	OP	Pilot ramp for snap back - octuples of for clean measurements		
48	SAT 23/5	M	Squeeze-pilot	8	OMC	Optics squeeze - corrections - focus 80 cm		80cm ok, miss last measurements/corrections down to 40cm
48	SAT 23/5	A	Injection-nominal	4	COLL	Local aperture at injection - re-check IP1		Post-poned
48	SAT 23/5	A	Squeeze-pilot	4	OP/ABP	Pilot attempt at de-squeeze		Post-poned
48	SAT 23/5	N	Injection-pilot	8	OMC	Injection measurements - linear and non-linear		Partially achieved - to be completed
49	SUN 24/5	M	Squeeze-pilot	4	OP	Squeeze cleanup - flat		
49	SUN 24/5	M	Squeeze-pilot	4	OP/COLL	Bump ON during squeeze (with TCT pre-adjustment)		
49	SUN 24/5	A	Injection-nominal	4	COLLBI	Detailed BPM collimators		
49	SUN 24/5	N	Squeeze-pilot	4	OP	Pilot de-squeeze to 90m		
49	SUN 24/5	N	Ramp-nominal	4	OP	Ramp tests: sequences for tune change + LBDS dump at 6.5TeV		
50	MON 25/5	M	Injection-nominal	8	COL	Global aperture at injection + repeat some local IRs		
50	MON 25/5	A	Injection-trains	8	OP	6b-12b trains		
50	MON 25/5	N	Ramp-nominal	8	OP	6.5TeV instabilities - (Collimator impedance - tune shift versus settings (TBC))		
51	TUE 26/5	M	--	4		Access (ATLAS, ...)		
51	TUE 26/5	M	Ramp-pilot	4	OP	6b-12b trains		
51	TUE 26/5	A	Ramp-pilot	8		ADT setup (trains/abort gap)		
51	TUE 26/5	N	Ramp-pilot	8	OMC	Optics measurements at 80cm and below (flat machine)		
52	WED 27/6	M	Ramp-nominal	8	OMC	Optics measurements at 80cm and below (flat machine)		BSRT calibration
52	WED 27/7	A	Injection-trains	4		Dry run new squeeze, 80 cm and 90m		
52	WED 27/7	A	Injection-trains	4		6b trains up to 48 bunches / beam		Water in pt2 --> cryo
52	WED 27/8	N	Ramp-nominal	6	OP/RF	RF loops and longitudinal BTF		
53	THU 28/5	M	Ramp-nominal	8	OP	Full cycle to 80 cm collisions with probes		
53	THU 28/7	A	Ramp-nominal	8	OP	Full cycle to 80 cm collisions with 1 and 2 nominal bunches, collisions		
53	THU 28/8	N	Injection-nominal	8	ABT	Reference loss maps at TCDQ		
54	FRI 29/5	M	Injection-trains	8	OP	Test of 12b (25ns) injection		sorted out B2 capture problems for BPMs
54	FRI 29/5	A	Ramp-probe	8	OP	Test cycle with 2 nominals for stability		
54	FRI 29/5	N	Ramp-probe	8	OP			ALICE dipole PC
55	SAT 30/5	M	Ramp-nominal	8	OP	Full cycle to 80 cm collisions with 2 nominal bunches, collisions for TCT alignment		
55	SAT 30/5	A	Ramp-nominal	8	OP	Full cycle to 80 cm collisions with 2 nominal bunches, collisions for TCT alignment		
55	SAT 30/5	N	Ramp-nominal	4	OP	Test cycle with 2 nominals for stability		
55	SAT 30/5	N	Ramp-probe	4	OP	Q' versus octupoles, Q' decay at FT		
56	SUN 31/5	M	Injection-trains	10	OP	ADT setup 50ns-25ns (6b-12b)		
56	SUN 31/5	A		6	OP	Test cycle for collimators with probes		Access for ALICE
56	SUN 31/5	N	Injection-nominal	8	OP	Wire-scanner calibration at 450 GeV		
57	MON 01/6	M		8	OP	Access		
57	MON 01/6	A	Ramp-nominal	8	OP	MPS validation and aperture end of squeeze		
57	MON 01/6	N	Ramp-nominal	8	OP	MPS validation		
58	TUE 02/6	M	Ramp-nominal	8	OP	MPS validation and aperture in collision		
58	TUE 02/6	A	Ramp-nominal	8	OP	MPS validation		
58	TUE 02/6	N	Ramp-nominal	8	OP	MPS validation		
59	WED 03/6	M	Ramp-nominal	8	OP	First stable beams		
59	WED 03/6	A	Ramp-nominal	8	OP	Stable beams		59 days - not bad. Unfortunately we did not finish the program - next time we must add 2 more weeks
64	MON 08/6	M	Ramp-probe	8	OP	Cycle check with probes for desqueeze		
64	MON 08/6	M/A		4				QPS, access etc
64	MON 08/6	A/N	Ramp-nominal	8	OP	RP alignment for desqueeze		Many attempts lost to suprious interlocks
64	MON 08/6	N	Ramp-nominal	4	OP	MPS validation with RPs		
65	TUE 09/6	M	Ramp-nominal	8	OP	MPS validation with RPs		
65	TUE 09/6	A	Ramp-nominal	8	OP	MPS validation with RPs		Many attempts lost to suprious interlocks
65	TUE 09/6	N	Ramp-nominal	8	OP	Stable beams with desqueeze		
66	WED 10/6	M	Ramp-nominal	8	OP	Stable beams with desqueeze		
66	WED 10/6	A	Ramp-nominal	8	OP	Stable beams with desqueeze		First with 39b
66	WED 10/6	N	Ramp-nominal	8	OP	Stable beams with desqueeze		
67	THU 11/6	M	Ramp-nominal	8	OP	Stable beams with desqueeze		
67	THU 11/6	A	Ramp-nominal	8	OP	Quench 33.L4 - training quench - cryo recovery		
			RF	3		shifts		
			ADT	2.5		shifts		
			COL	4.5		shifts		
			OMC	8		shifts		
			ABT	8.5		shifts		