			Milestone Summary (Version: 2003sep12b)				Legei	nd: L	evel 1:	1 Leve	el 2: X	Level 3	B: O (Original	dates in	gray)	
Page	Milestone #	WBS#	Milestone Name	Due Date	Level	Status	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1	9800	9.380.9800	Plan for compact and intermediate configurations submitted	2002-Nov-27	2	Done	X										
2	98051	9.380.98051	Draft of calibration requirements document	2002-Dec-31		Done	О										
3	9805	9.380.9805	Review of calibration requirements with science examples complete	2003-Feb-28	2	Done		X									
4	98121	9.380.98121	ATM software library available	2003-Mar-20	3	Done		0									
5	98201	9.380.98201	Draft of bandpass calibration plan	2003-Mar-30	3	Done		0									
6	98207	9.380.98207	Draft of antenna global pointing model determination plan	2003-Mar-30	3	Done		0									
7		9.380.98208	Draft of reference pointing and focus calibration plans	2003-Mar-30	3	Done		0									
8		9.380.98351	Draft of WVR technical aspects document	2003-Mar-30	3	Done		0									
9		9.380.98206	Draft of antenna location determination plan	2003-Mar-31		Done		0									
10		9.380.98152	First revised configuration (pad position) plan submitted	2003-Apr-09	3	Done		00									
11		9.380.98202	Draft of phase calibration plan	2003-Apr-15		Done		00									
12		9.380.98122	Draft specifications for calibration devices	2003-Apr-30		Done		0									
13		9.380.98151	Investigation of Logic of Antenna Motion	2003-Jun-09		Done		00									
14		9.380.98203	Draft of amplitude calibration plan	2003-Jun-09		Done		00									
15		9.380.98204	Review of SSR plan for phase calibration techniques	2003-Jun-09		Done		00									
16	98218	9.380.98218	Revised polarization calibration plan	2003-Jun-09		Done		0									
17		9.380.98352	Report on feasibility and usefulness of WVRs on ATF interferometer	2003-Jun-09		Done		0									
18		9.380.98205	Draft of delay calibration plan	2003-Jun-16		Done		00									
19		9.380.9812	Document on how calibration reqs flow down to instrumental specs	2003-Jun-30		Done	-	X									
20	9815	9.380.9815	Plan for Y+ configuration submitted	2003-Jun-30		Done	-	X									
21		9.380.98702	Description of current site characterization instrumentation.	2003-Jun-30		Done		0									
22		9.380.98209	Draft of polarization calibration plan	2003-Jul-08		Done	-	0 0									
23		9.380.98211	Revised bandpass calibration plan	2003-Jul-08		Done	-	00									
24			Revised phase calibration plan	2003-Jul-08		Done	-	00									
25			Revised amplitude calibration plan	2003-Jul-08		Done	-	00									
26			Revised delay calibration plan	2003-Jul-08		Done		00									
27		9.380.98216	Revised antenna global pointing model determination plan	2003-Jul-08		Done		00									
28			Revised reference pointing and focus calibration plan	2003-Jul-08		Done		00									
29	98708	9.380.98708 9.380.98219	Report on RFI environment at Chajnantor Complete draft report on calibration strategy ready for review	2003-Jul-31		Done		00									
30 31		9.380.98220	Test plan for amplitude calibration devices on ATF	2003-Aug-07 2003-Sep-30		Done	-	0									
32		9.380.98703	Radio sonde data analysis written.	2003-Sep-30 2003-Sep-30		Delay	-	0									
33		9.380.98705	Report on phase correction analysis	2003-Sep-30 2003-Sep-30		Delay	-	0									
34		9.380.98703	Report on accuracy of mesoscale atmosphere models	2003-Sep-30		Delay		0									
35		9.380.98221	Draft of Design Reference Mission	2003-Sep-30 2003-Oct-15		Delay		0									
36		9.380.9820	Calibration strategy submitted	2003-Oct-31		Delay		XX									
37		9.380.9822	Design Reference Mission Submitted for approval	2003-Dec-31		Delay		0									
38	98210	9.380.98210	Draft of operation model for calibration	2003-Dec-31		Delay		0 0									
39		9.380.98214	Revised antenna location determination plan	2003-Dec-31		Delay		0 0									
40		9.380.98451	Science verification plan for commissioning drafted	2003-Dec-31		Dolay		0 0									
41	98706	9.380.98706	Report on height of turbulent layer	2003-Dec-31				0									
42		9.380.98704	Report on analysis of high precision hygrometer measurements.	2003-Dec-31		Delay		·	0								
43		9.380.98301	, , , , , ,	2004-Feb-29					0								
44			Draft WVR software implementation plan	2004-Mar-30					0								
45			Plan for interferometry tests on ATF complete	2004-Mar-31					0								
46		9.380.9825	Science aspects of operations plan complete	2004-Jun-30		Delay		X	X								
47		9.380.9830	Plan for early science configurations complete	2004-Jun-30					X								
48		9.380.98401	Prototype antenna motion tests complete	2004-Jun-30					0								
49		9.380.98402	Report on prototype antenna pointing in varying wind conditions	2004-Jun-30					0								
50		9.380.98452	Science verification draft for commissioning revised	2004-Jun-30					0								
51		9.380.9835	Report WVR strategy / implementation / operations	2004-Sep-30					X								
52		9.380.9840	Review of tests of calibration strategies on prototype interferometer complete	2004-Dec-31					Х								
53		9.380.98431	Tests of dynamic scheduling on interferometer at ATF.	2005-Jan-31						0							
54		9.380.9843	Review of tests of calibration strategies on ATF interferometer	2005-May-30		1				V							

File: Science_amd_2003sep12b.xls Worksheet: Summary

Science Milestone Summary (Version: 2003sep12b) **Legend:** Level 1:1 Level 2:X Level 3: 0 (Original dates in gray) Page Milestone # WBS # Milestone Name Due Date Level Status 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 9.380.9845 Science verification plan for commissioning submitted 2005-Jun-30 2 9.380.9870 Definition of site characterization instrumentation for ALMA operations 2006-Jan-31 2 2007-Apr-30 9.380.98501 Science verification of ALMA early science array Bands 3, 6, & 7 begins 3 0 9.380.9850 Science verification of ALMA early science array Bands 3, 6, & 7 complete 2007-Jul-31 2 X 9.380.8045 Start Early Science Operations 2007-Sep-30 1 9.380.98551 Science verification of ALMA Band 9 begins 2008-Jun-30 3

2008-Sep-30

2011-Dec-31

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Science verification of ALMA Band 9 complete

Science verification of ALMA imaging quality

Final Science verification complete array

Start of full Science Operations

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RE	Scheduled Date (dd-mmm-yyyy)	Date Changed	Plan Version	Comme	nts					
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ALMA Mileston	e Definiti	on Shee	t (Comple	ted		WBS:	9.380.9820	06
Milestone 98206	Draft of antenn	a location det							
Level 1 WBS #	9	(Science)							
ALMA Work Package #		(Science)							
ALMA Milestone #	98206	(Level 1 and	2 Assigned by	Project Offi	ce; Level 3	assigned b	y IPT)		
Milestone Level	3	(1, 2, or 3)							
Scheduled Completion	2003-Mar-31	(Enter using	dd-mmm-y	yyy format)					
Responsible Group	-	enna, Softwar	e (d	Organization	, IPT, or G	roup)	Completed:	Yes	Page
Responsible Individual				Name)	Partner:	T /		2003-Mar-31	9
Milestone									
Definition:	Dian of anter							ng phase vs. de	
Deminion.	geometric mo	odei (tides, ani	tenna motion	s, etc), fre	equency of	r solutions,	bootstrapping	g new antenna p	bads, etc
(right click in Milestone									
Definition box to edit text)									
Critical Predecessor	s								
Milestone #	Lead/Lag								
(See Milestones page)	(weeks)		Comments			Predecess	or Description	(if available)	
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ALMA Mileston	e Definiti	on Shee	t Co	ompleted		WBS:	9.380.9815	52
Milestone 98152	First revised co	onfiguration (p						
Level 1 WBS #	9	(Science)						
ALMA Work Package #	380	(Science)						
ALMA Milestone #	98152	(Level 1 and	2 Assigned by P	roject Office; Level	3 assigned by IP	Γ)		
Milestone Level	3	(1, 2, or 3)						
Scheduled Completion	2003-Apr-09	(Enter using	dd-mmm-yyy	y format)				
Responsible Group			(Or	ganization, IPT, or (Group) Co	mpleted:	Yes	Page
Responsible Individual				me) Partner:		-	2003-Apr-09	10
Milestone								
Definition:	First revised (lan delivered, incl				n survey,
Deminion.	road and pow	er/fiber conal	lit design plan,	and imaging re-op	timization given	tnese cor	isiderations.	
(right click in Milestone								
Definition box to edit text)								
Critical Predecessor	S							
Milestone #	Lead/Lag							
(See Milestones page)	(weeks)		Comments		Predecessor D	escription	(if available)	
1 98221				•	Draft of Design Refere	ence Mission		
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Revision History								
Scheduled Date	Date	Plan						
(dd-mmm-yyyy)	Changed	Version	Comments		==			
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Al	LMA Mileston	e Definiti	on Shee	t Coi	npleted	V	VBS:	9.380.98202	
	Milestone 98202				•				
	Level 1 WBS #	9	(Science)						
Α	LMA Work Package #	380	(Science)						
	ALMA Milestone #	98202	(Level 1 and	l 2 Assigned by Proj	ect Office; Level 3	3 assigned by IPT)			
	Milestone Level	3	(1, 2, or 3)						
S	cheduled Completion	2003-Apr-15	(Enter using	dd-mmm-yyyy j	format)				
	Responsible Group			(Orga	nization, IPT, or C	Group) Com	pleted:	Yes	Page
Re	esponsible Individual			(Name			-	2003-Apr-15	11
	-			(Tressite	,	71010	u.	20007161.10	
	Milestone Definition:	Draft of phase	e calibration p	lan, including fast	-switching, WVR	R, etc			
	(right click in Milestone								
	efinition box to edit text)								
Cr	tical Predecessor	e							
CII	Milestone #	S Lead/Lag							
	(See Milestones page)	(weeks)		Comments		Predecessor Desc	crintion	(if available)	
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Re	evision History								
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12	2003-Apr-15	2003-May-23	2003may23a	email report of co	mpletion from A	Wootten 2003ma	ıy20		
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ALMA Mileston	e Definiti	on Shee	t Cor	npleted	VBS: 9	.380.9812	2	
Milestone 98122	Draft specificat	ions for calibr		•				
Level 1 WBS #	9	(Science)						
ALMA Work Package #		(Science)						
ALMA Milestone #	98122	(Level 1 and	2 Assigned by Proj	ect Office; Level 3	3 assigned by IPT)			
Milestone Level	3	(1, 2, or 3)						
Scheduled Completion	2003-Apr-30	(Enter using	dd-mmm-yyyy j	format)				
Responsible Group			(Orga)	nization, IPT, or C	Group) Comi	oleted:	Yes	Page
Responsible Individual		, John Richer	(Name				2003-Apr-30	12
Milestone								
Definition:	Diait docume			levices which are	e external to the a	ntenna, p	lus the WVR (which is
20	on the antenr	ia) and their s	pecifications.					
(right click in Milestone								
Definition box to edit text)								
Critical Predecessor	s							
Milestone #	Lead/Lag							
(See Milestones page)	(weeks)		Comments		Predecessor Desc	ription (if	available)	
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Revision History								
Scheduled Date	Date	Plan						
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ΑI	LMA Mileston	e Definiti	on Shee	eet Completed					WBS: 9.380.98151		
	Milestone 98151										
	Level 1 WBS #	9	(Science)								
Α	LMA Work Package #	380	(Science)								
	ALMA Milestone #	98151	(Level 1 and	2 Assigned l	by Project O	ffice; Level 3	assigned by	v IPT)			
	Milestone Level	3	(1, 2, or 3)								
S	cheduled Completion	2003-Jun-09	(Enter using	dd-mmm-	yyyy forma	at)					
	Responsible Group	Science			(Organizati	on, IPT, or G	Froup)	Completed:	Yes	Page	
Re	esponsible Individual	Holdaway, C	onway, Otaro	а	(Name)	Partner:		Actual Date:	2003-Jun-09	13	
	Milestone Definition: (right click in Milestone efinition box to edit text)	Logic of anter	om scheduling	and stringe					ations, incorporati onted with site	ing	
Cri	itical Predecessor	S Lead/Lag									
	(See Milestones page)	(weeks)		Comments			Predecess	or Description	(if available)		
1	98221						Draft of Design I	Reference Mission			
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	evision History										
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13	2003-Jun-09	2003-Aug-04	2003aug04a	Done end	of ALMA W	eek					
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ΑL	MA Mileston	t Co	ompleted	WBS:	WBS: 9.380.98203				
	Milestone 98203	Draft of amplitu	ıde calibration		•				
	Level 1 WBS #	9	(Science)						
ΑL	₋MA Work Package #	380	(Science)						
	ALMA Milestone #	98203	(Level 1 and	2 Assigned by Pr	roject Office; Level .	3 assigned by	(IPT)		
	Milestone Level	3	(1, 2, or 3)						
Sc	heduled Completion	2003-Jun-09	(Enter using	dd-mmm-yyyy	y format)				
	Responsible Group			(Ors	ganization, IPT, or (Group)	Completed:	Yes	Page
Re	sponsible Individual		ıilloteau	(Nai				2003-Jun-09	14
	Milestone				·				
	Definition:	Drait of ampli			g single dish ampl calibrators, decorr				
	right click in Milestone finition box to edit text)			//almaedm.tuc.n 2003070814205	rao.edu/forums/alı 53/No	ma/dispatch	.cgi/almaprojr	me	
	tical Predecessor Milestone # (See Milestones page)	S Lead/Lag (weeks)		Comments		Predecesso	or Description	(if available)	
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ĸe	Scheduled Date (dd-mmm-yyyy)	Date Changed	Plan Version	Comments					
11	2003-Mar-30	2003-Feb-14			nate as submitted				
12	2003-May-31				delay from A Woo	tten 2003ma	ay20		
13	2003-Jun-09	2003-Aug-04	2003aug04a	Done, presente	ed ALMA Week				
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Αl	MA Mileston	on Shee	eet Completed				WBS: 9.380.98204			
	Milestone 98204	Review of SSR	Plan for phase							
	Level 1 WBS #	9	(Science)							
Α	LMA Work Package #		(Science)							
	ALMA Milestone #			2 Assigned b	v Project Off	ice: Level 3	assigned by	v IPT)		
	Milestone Level		(1, 2, or 3)	21155181164 0	y 1 roject Ojj	ice, Eever 5	ussigned by	, 1)		
Sc	cheduled Completion			dd-mmm-y	yyy format)					
	Responsible Group	Science		(Organization	ı IPT or G	roun)	Completed:	Yes	Page
R	esponsible Individual				(Name)	Partner:	roup)	-	2003-Jun-09	15
					ivanie)	i artiici.		Actual Date.	2003 Juli 03	10
	Milestone Definition:									
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	efinition box to edit text)									
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Αl	LMA Milestone Definition Sheet				Completed WBS: 9.380				9.380.98218	}
	Milestone 98218	Revised polariz	zation calibrat	ion plan	•					
	Level 1 WBS #	9	(Science)	-						
A	LMA Work Package #		(Science)							
	ALMA Milestone #			2 Assigned	by Project Of	fice; Level 3	assigned by	(IPT)		
	Milestone Level	3	(1, 2, or 3)	Ü						
So	cheduled Completion	2003-Jun-09	(Enter using	dd-mmm-	yyyy formai	t)				
	Responsible Group	Science			(Organizatio	on, IPT, or G	Group)	Completed:	Yes	Page
Re	esponsible Individual	Steve Myers,	, Mark Holdav	/ay	(Name)	Partner:		Actual Date:	2003-Jun-09	16
	Milestone Definition:									
De	(right click in Milestone efinition box to edit text)									
	Milestone # (See Milestones page)	Lead/Lag (weeks)		Comments			Predecesso	or Description	(if available)	
1	98209						Draft of polarizat	tion calibration plan		
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Re	Scheduled Date (dd-mmm-yyyy)	Date Changed	Plan Version	Comme	nts					
11	2003-Jun-30	2003-Feb-14	2003feb18a			submitted	by IPT			
12	2003-Jul-31	2003-May-20	2003may23a	email repo	rt of Delay fr					
13	2003-Jun-09	2003-Aug-04	2003aug04a	"Done ALM	1A Week"					
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ALMA Mileston	e Definiti	on Shee	eet Completed WBS: 9.380.98					
Milestone 98352	Report on feas	ibility and use			ometer			
Level 1 WBS #	9	(Science)						
ALMA Work Package #		(Science)						
ALMA Milestone #	98352	(Level 1 and	2 Assigned by Pr	oject Office; Level	l 3 assigned b	y IPT)		
Milestone Level	3	(1, 2, or 3)						
Scheduled Completion	2003-Jun-09	(Enter using	dd-mmm-yyyy	format)				
Responsible Group	Science		(Org	ganization, IPT, or	Group)	Completed:	Yes	Page
Responsible Individual	John Richer		(Nai	ne) Partne	r:	Actual Date:	2003-Jun-09	17
Milestone								
Definition:								
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(right click in Milestone								
Definition box to edit text)								
Critical Predecessor								
Milestone #	Lead/Lag							
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Revision History								
Scheduled Date	Date	Plan						
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Αl	LMA Milestone Definition Sheet				Completed V			WBS:	WBS: 9.380.98205		
	Milestone 98205	Draft of delay of	calibration pla		•						
	Level 1 WBS #	9	(Science)								
A	LMA Work Package #	380	(Science)								
	ALMA Milestone #	98205	(Level 1 and	2 Assigned by	y Project Offic	ce; Level 3	assigned by	y IPT)			
	Milestone Level	3	(1, 2, or 3)								
Sc	cheduled Completion	2003-Jun-16	(Enter using	dd-mmm-y	yyy format)						
	Responsible Group	_	8		Organization,	IDT or C	Troup)	Completed:	Yes	Dogo	
R	esponsible Individual		uilloteau Auro		_	Partner:	тоир)		2003-Jun-16	Page 18	
110	·		illoteau, Auro	re bacman	ivume)	i artiier.		Actual Date.	2003-3411-10	10	
	Milestone Definition:	DONE: IN ALIV				ums/alma	n/dispatch.c	gi/almaprojme	eetings/doc		
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Cri	tical Predecessor	· e									
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Αl	LMA Mileston	e Definition	on Shee	t Com	oleted	WBS: 9.380.9812
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	Level 1 WBS#		(Science)			
Al	LMA Work Package #		(Science)			
	ALMA Milestone #			2 Assigned by Project	Office; Level 3 assigned	by IPT)
	Milestone Level	2	(1, 2, or 3)			
Sc	cheduled Completion	2003-Jun-30		dd-mmm-yyyy form	nat)	
	Responsible Group	Science IPT		(Organiza	tion, IPT, or Group)	Completed: Yes Page
Re	esponsible Individual			(Name)	Partner: Both	Actual Date: 2003-Jun-30
	Milestone					
		Review of nov				pecifications, including special calibration
	Definition:					in subreflector, but NOT the WVR or
	(right click in Milestone	devices which	are external	to the antenna like F	TS, Wx station, etc).	
	efinition box to edit text)	Reported com	nleted by A \	Nootten 2003- lun-30	Document posted to	AL MAEDM
De	junion box to can text)	ixeported con	ipieteu by A v	7V0011611 2003-3011-30	Document posted to	ALMALDIM
Cri	tical Predecessor	9				
011	Milestone #	Lead/Lag				
	(See Milestones page)	(weeks)		Comments	Predeces	ssor Description (if available)
1	98121	12		Comments		e library available
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Re	evision History	Data	Diam			
	Scheduled Date (dd-mmm-yyyy)	Date Changed	Plan Version	Comments		
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11 12	2003-Jun-30	2003-Jan-24	2003jan240	Adopted at AOC me	eungs 2003 Jan 22-24	
13	2003-Jun-30	2003-Jul-07	2003Jul07a	A Wootten reported	milestone completed, v	with document posted to ALMAEDM
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AL	LMA Milestone Definition Sheet			t	Completed				WBS: 9.380.9815		
	Milestone 9815	Plan for Y+ co	nfiguration su	bmitted	•						
	Level 1 WBS #		(Science)								
AL	.MA Work Package #	380	(Science)								
	ALMA Milestone #			2 Assigned l	by Project Offi	ce: Level 3	assigned b	v IPT)			
	Milestone Level		(1, 2, or 3)		. y = 1 = y = 1 = 2	,		, ,			
Sc	heduled Completion	2003-Jun-30	(Enter using	dd-mmm-	yyyy format)						
	Responsible Group		_		(Organization	ı. IPT. or Gi	coup)	Completed:	Yes	Page	
Re	sponsible Individual		, Mark Holda	way	(Name)	Partner:	_		2003-Jun-30	20	
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	Milestone Definition:	Pian ior aii co			- configuratio	n submitte	d.				
	right click in Milestone finition box to edit text)	verbal update require furthe			: Might slip;	~20 of oute	er pad loca	ations have fra	ctured rock whic	h may	
		Reported com	npleted by A \	Wootten 200)3-Jun-30 Do	ocument po	osted to A	LMAEDM			
Crit	ical Predecessor										
	Milestone #	Lead/Lag									
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ΑI	LMA Mileston	e Definiti	on Shee	et Completed				WBS: 9.380.98702		
	Milestone 98702									
	Level 1 WBS #	9	(Science)							
Α	LMA Work Package #	380	(Science)							
	ALMA Milestone #	98702	(Level 1 and	2 Assigned b	by Project Off	ice; Level 3	assigned by	y IPT)		
	Milestone Level	3	(1, 2, or 3)							
S	cheduled Completion	2003-Jun-30	(Enter using	dd-mmm-	yyyy format))				
	Responsible Group				(Organization	n IPT or G	(roun)	Completed:	Yes	Page
Re	esponsible Individual		nan		(Name)	Partner:	топр)		2003-Jun-30	21
	Milestone				,					
	Definition:	Description of	f current and p	oast instrum	ents, data, a	nalysis, in	cluding des	scription of dat	ta location and f	ormat.
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	efinition box to edit text)									
Cr	tical Predecessor	e								
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Αl	LMA Milestone Definition Sheet				Completed WBS: 9.380.9					09
	Milestone 98209				•					
	Level 1 WBS #	9	(Science)							
A	LMA Work Package #	380	(Science)							
	ALMA Milestone #			2 Assigned by	Project Off	fice; Level 3	assigned by	y IPT)		
	Milestone Level	3	(1, 2, or 3)							
So	cheduled Completion	2003-Jul-08	(Enter using	dd-mmm-y	yyy format)				
	Responsible Group				Organizatio	n, IPT, or G	roup)	Completed:	Yes	Page
Re	esponsible Individual	Steve Myers,	Mark Holdav	ay (.	Name)	Partner:		Actual Date:	2003-Jul-08	22
	Milestone Definition: (right click in Milestone efinition box to edit text)	mixed?), and plates, etc, Outline in cal	special device as function of plan	e needs and f wavelength)	description	s (e.g., pho	otonic trans	smitter in the s	e or different P <i>F</i> subreflector, qua	
		http://almaedm.tu	uc.nrao.edu/forur	ns/alma/dispatch	n.cgi/almaproj	meetings/doc	Profile/10066	2/d20030708142	053/No	
Cri	Critical Predecessors Milestone # Lead/Lag (See Milestones page) (weeks)			Comments			Predecess	or Description	(if available)	
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11	2003-Mar-30	2003-Feb-14	2003feb18a	Initial date e	stimate as	submitted b	y IPT			
12	2003-Jun-30	2003-May-23	2003may23a	email report	of delay fro			ay20		
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Αl	MA Mileston	t C	Completed WBS: 9.380.9					1		
	Milestone 98211	Revised bandp	ass calibratio							
	Level 1 WBS #	9	(Science)							
A	LMA Work Package #	380	(Science)							
	ALMA Milestone #	98211	(Level 1 and	2 Assigned by	Project Offi	ce; Level 3	assigned by	(IPT)		
	Milestone Level	3	(1, 2, or 3)							
Sc	cheduled Completion	2003-Jul-08		dd-mmm-yy	yy format)					
	Responsible Group		, 0		rganization	IPT or C	roun)	Completed:	Yes	Page
Re	esponsible Individual		ıilloteau		rganizanon ame)	Partner:	гоир)	-	2003-Jul-08	23
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	Milestone Definition:	Revised band		on plan 2003- orums/alma/disp				file/100662/d20	0030708142053/No	1
De	(right click in Milestone efinition box to edit text) tical Predecessor Milestone #	Lead/Lag								
	(See Milestones page)	(weeks)		Comments				or Description	(if available)	
1	98201						Draft of bandpas	ss calibration plan		
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Re	Scheduled Date (dd-mmm-yyyy)	Date Changed	Plan Version	Comments						
11	2003-Jun-30	2003-Feb-14		Initial date est	timate as s					
12	2003-Jul-08	2003-Aug-04	2003aug04a	Reported com	plete by A	Wootten 2	2003aug01			
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Αl	LMA Milestone Definition Sheet			t	Completed			WBS: 9.380.98212		
	Milestone 98212	Revised phase	calibration pl		•					
	Level 1 WBS #	9	(Science)							
A	LMA Work Package #	380	(Science)							
	ALMA Milestone #	98212	(Level 1 and	2 Assigned b	y Project Offi	ice; Level 3	assigned by	(IPT)		
	Milestone Level	3	(1, 2, or 3)							
Sc	cheduled Completion	2003-Jul-08		dd-mmm-y	yyy format)					
	Responsible Group		, 0		Organization		roun)	Completed:	Yes	Dogo
R	esponsible Individual				(Name)	Partner:	гоир)	-	2003-Jul-08	Page 24
110	_				(Ivame)	i ai tilei.		Actual Date.	2003-301-00	24
	Milestone Definition:	Draft on ALM		orums/alma/di	spatch.cgi/alr	maprojmeet	ings/docPro	file/100662/d20	0030708142053/No)
Cri 1 2 3	tical Predecessor Milestone # (See Milestones page)	S Lead/Lag (weeks)		Comments	·		Predecesso Draft of phase ca	or Description	(if available)	
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Αl	LMA Milestone Definition S			eet Completed				WBS: 9.380.98213		
	Milestone 98213	Revised amplit	ude calibratio		•					
	Level 1 WBS #	9	(Science)							
ΑI	LMA Work Package #	380	(Science)							
	ALMA Milestone #	98213	(Level 1 and	2 Assigned by	Project Offic	e; Level 3	assigned by	(IPT)		
	Milestone Level	3	(1, 2, or 3)							
Sc	cheduled Completion	2003-Jul-08		dd-mmm-yy	yy format)					
	Responsible Group		(8		rganization,	IDT or C	roun)	Completed:	yes	Dogo
R	esponsible Individual		illoteau		_	Partner:	тоир)	-	2003-Jul-08	Page 25
110	_		illoteau	(14	ume)	i artifer.		Actual Date.	2003-301-00	23
	Milestone Definition:	Drait on ALM		orums/alma/disp	oatch.cgi/alm	aprojmeeti	ings/docPro	file/100662/d20	0030708142053/No)
De	tical Predecessor Milestone # (See Milestones page)	S Lead/Lag (weeks)		Comments				or Description le calibration plan	(if available)	
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11	2003-Jun-30	2003-Feb-14		Initial date est						
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ΑI	LMA Milestone Definition Sheet			t Co	ompleted	WBS:	9.380.98215	
	Milestone 98215	Revised delay	calibration pla		•			
	Level 1 WBS #	9	(Science)					
Α	LMA Work Package #	380	(Science)					
	ALMA Milestone #	98215	(Level 1 and	2 Assigned by Pr	oject Office; Level 3	3 assigned by IPT)		
	Milestone Level	3	(1, 2, or 3)					
So	cheduled Completion	2003-Jul-08		dd-mmm-yyy	format)			
<u> </u>	Responsible Group		8		ganization, IPT, or C	Group) Completed:	: Yes	Dogo
D,	Responsible Group esponsible Individual		illotoau Auro				2003-Jul-08	Page
I. C	•		illioteau, Auro	Te Bacillali (Nai	ne) Faithei.	Actual Date	2003-301-06	26
	Milestone Definition:	Revised delay			0 3 Draft on ALMA i/almaprojmeetings/doo	EDM cProfile/100662/d20030708142	2053/No	
	(right click in Milestone efinition box to edit text)							
Cri	tical Predecessor Milestone #	Lead/Lag						
	(See Milestones page)	(weeks)		Comments		Predecessor Description		
1	98206					Draft of antenna location determinat	ion plan	
2								
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Re	Scheduled Date (dd-mmm-yyyy)	Date Changed	Plan Version	Comments				
11	2003-Jun-30	2003-Feb-14			nate as submitted			
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ΑI	LMA Mileston	on Shee	eet Completed				WBS: 9.380.98216			
	Milestone 98216									
	Level 1 WBS #	9	(Science)	_						
Α	LMA Work Package #	380	(Science)							
	ALMA Milestone #	98216	(Level 1 and	2 Assigned	by Project Off	fice; Level 3	assigned by	(IPT)		
	Milestone Level	3	(1, 2, or 3)							
So	cheduled Completion	2003-Jul-08		dd-mmm-	yyyy format)				
<u> </u>	Responsible Group		8		(Organizatio		roun)	Completed:	Yes	Dogo
R	esponsible Individual				(Organizano (Name)	Partner:	тоир)		2003-Jul-08	Page 27
111	-				(Ivame)	i ai tilei.		Actual Date.	2003-301-00	21
	Milestone Definition:	Drait on ALM		orums/alma/d	dispatch.cgi/al	maprojmeet	ings/docPro	file/100662/d20	0030708142053/No	o
Cri	(right click in Milestone efinition box to edit text) itical Predecessor Milestone # (See Milestones page) 98207	S Lead/Lag (weeks)		Comments				or Description	(if available) el determination plan	
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11	2003-Jun-30	2003-Feb-14								
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Al	ALMA Milestone Definition			t	Comple	eted		WBS:	9.380.9821	7
	Milestone 98217	Revised refere	nce pointing a	ind focus ca						
	Level 1 WBS #	9	(Science)							
Α	LMA Work Package #	380	(Science)							
	ALMA Milestone #	98217	(Level 1 and	2 Assigned	by Project Offi	ce; Level 3	assigned by II	PT)		
	Milestone Level	3	(1, 2, or 3)							
S	cheduled Completion	2003-Jul-08	(Enter using	dd-mmm-	yyyy format)					
	Responsible Group	Science			(Organization	. IPT. or Gi	roup) C	completed:	Yes	Page
Re	esponsible Individual		, Robert Luca	s, Pepe Ce		Partner:		-	2003-Jul-08	28
	Milestone				′ ′					
	Definition:	Drait on ALM		orums/alma/o	dispatch.cgi/aln	naprojmeeti	ngs/docProfile	e/100662/d20	030708142053/N)
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$D\epsilon$	efinition box to edit text)									
Cri	itical Predecessor	S								
	Milestone #	Lead/Lag								
	(See Milestones page)	(weeks)		Comments		ļ	Predecessor	Description	(if available)	
1	98208					[Draft of reference p	ointing and focus	calibration plans	
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	Scheduled Date	Date	Plan							
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11	2003-Jun-30	2003-Feb-14			estimate as s					
12	2003-Jul-08	2003-Aug-04	2003aug04a	Reported of	complete by A	Wootten 2	2003aug01			
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Αl	MA Mileston	on Shee	et Completed				WBS: 9.380.98708			
	Milestone 98708									
	Level 1 WBS #	9	(Science)							
A	LMA Work Package #	380	(Science)							
	ALMA Milestone #	98708	(Level 1 and	2 Assigned l	by Project Off	ice; Level 3	assigned by	y IPT)		
	Milestone Level	3	(1, 2, or 3)							
Sc	cheduled Completion	2003-Jul-31	(Enter using	dd-mmm-	yyyy format,)				
	Responsible Group	_			(Organizatio	n. IPT. or G	Group)	Completed:	Yes	Page
Re	esponsible Individual				(Name)	Partner:	_		2003-Jul-31	29
	Milestone				(,					
	Definition:	Report on RF	I environment	t at Chajnan	itor					
	(right click in Milestone									
	efinition box to edit text)									
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Cri	tical Predecessor									
	Milestone #	Lead/Lag					B I		## Palla	
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	Scheduled Date (dd-mmm-yyyy)	Date Changed	Plan Version	Commer	140					
11	2003-Jun-30	2003-Feb-14				cubmitted I	by IDT			
12	2003-Jul-31	2003-1 eb-14 2003-Aug-04					Dy II I			
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Al	ALMA Milestone Definition			et Comple	eted	WBS: 9.380.98219	
	Milestone 98219	Complete draft	report on cal	ibration strategy ready fo			
	Level 1 WBS #		(Science)	, , , , , , , , , , , , , , , , , , ,			
Δ	LMA Work Package #		(Science)				
	ALMA Milestone #			d 2 Assigned by Project Off	ica: Laval 3	assigned by IPT)	
	Milestone Level		(1, 2, or 3)	i 2 Assigned by I Tojeci Ojji	ce, Levei 5	ussigned by II 1)	
S	cheduled Completion			dd-mmm-yyyy format)			
	Responsible Group		, 0			roup) Completed: Yes Pa	
				(Organization		1'	age
K	esponsible Individual	Bryan Butler		(Name)	Partner:	Actual Date: 2003-Aug-07	30
	Milestone						
	Definition:						
	(right click in Milestone						
	efinition box to edit text)						
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Cri	itical Predecessor	e					
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	Milestone #	Lead/Lag			-	.	
	(See Milestones page)	(weeks)		Comments		Predecessor Description (if available)	_
1	98211					Revised bandpass calibration plan	
2	98212				F	Revised phase calibration plan	
3	98213				F	Revised amplitude calibration plan	
4	98214				F	Revised antenna location determination plan	
5	98215				F	Revised delay calibration plan	
6	98216				F	Revised antenna global pointing model determination plan	
7	98217				F	Revised reference pointing and focus calibration plan	
8	98218				F	Revised polarization calibration plan	
9							
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Re	evision History						
	Scheduled Date	Date	Plan				
	(dd-mmm-yyyy)	Changed	Version	Comments			
11	2003-Jul-31	2003-Feb-14		Initial date estimate as	submitted b	ov IPT	
12	2003-Aug-07			Revised date, as per en			_
13	2003-Aug-07			Completed (Chap 3 of p			-
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ALM/	LMA Milestone Definition Sheet							WBS: 9.380.98220				
r	Milestone 98220	Test plan for ar	nplitude calib	ration devic	es on ATF							
	Level 1 WBS #	9	(Science)							•		
ALMA \	Work Package #	380	(Science)									
AL	.MA Milestone #	98220	(Level 1 and	2 Assigned	by Project Of	fice; Level 3	assigned b	y IPT)				
1	Milestone Level	3	(1, 2, or 3)									
Schedu	led Completion	2003-Sep-30	(Enter using	dd-mmm-	yyyy format)						
Res	ponsible Group	Science			(Organizatio	n, IPT, or G	roup)	Completed:	No	Page		
	sible Individual		, Jesus-Martii	n Pintado	(Name)	Partner:		Actual Date:		31		
	Milestone	Undata 2003	-San-03: Awa	iting specif	ication of do	vices from I	Front End	group Dolay	by 1 month (un	cortain		
	Definition:	status). Resc	olve at next Ca	alibration gr	oup telecon	on Sep 16.		gioup. Delay	by i month (un	Certairi		
		, , , , , , , , , , , , , , , , , , , ,		J								
	click in Milestone											
Definitio	n box to edit text)											
Critical	Predecessor											
	Milestone #	Lead/Lag (weeks)		Comments			Dradages	or Description	(if available)			
1 982	ee Milestones page)	(weeks)		Comments	•			ude calibration plan	(II available)			
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ALMA Milestone Definition Sheet							WBS:	9.380.987	03		
Milestone 98703											
Level 1 WBS #		(Science)									
ALMA Work Package #		(Science)									
ALMA Milestone #		,	2 Assigned i	by Project Of	fice: Level 3	assigned by	v IPT)				
Milestone Level		(1, 2, or 3)	21155181104	y Project Ojj	nee, Zever 3	ussigned by	, 1)				
Scheduled Completion			dd-mmm-	yyyy format)						
Responsible Group	Science IPT			(Organizatio	n. IPT. or G	Froup)	Completed:	No	Page		
Responsible Individual		la		(Name)	Partner:	(((((((((((((((((((Actual Date:	.10	32		
-				(1101110)			7 totaa: Date:		02		
Milestone Definition:	and conclusion	ns about atm	ospheric str	ructure abov	e the site.	Also includ	es recommend	lysis, results su dations for futur a scientific Jour	re needs		
(right click in Milestone Definition box to edit text)		Update 2003-Aug-18 biweekly report: "Delay until 2003-Aug-31. A draft is written and awaits finalization between Butler, Radford and Otarola."									
	Update: 2003	-Sep-03: End	of Sept; dr	raft is comple	eted.						
Critical Predecessor Milestone # (See Milestones page)	S Lead/Lag (weeks)		Comments			Predecess	or Description	(if available)			
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Revision History	Dete	Diam									
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11 2003-Jul-31	2003-Feb-14	2003feb18a			submitted I	by IPT					
12 2003-Aug-31							ut I'll check or	the status."			
13 2003-Sep-30	2003-Sep-03										
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ALMA Mileston	e Definiti	on Shee	t	WBS: 9.380.98705					
Milestone 98705	Report on phas	se correction a	analysis						
Level 1 WBS #	9	(Science)						•	
ALMA Work Package #	380	(Science)							
ALMA Milestone #	98705	(Level 1 and	l 2 Assigned by Project	Office; Level 3	3 assigned by	y IPT)			
Milestone Level	3	(1, 2, or 3)							
Scheduled Completion	2003-Sep-30	(Enter using	dd-mmm-yyyy forn	nat)					
Responsible Group	Science IPT		(Organiza	ution, IPT, or G	Group)	Completed:	No	Page	
Responsible Individual		erez, Rivera,I	Nyman, Ric (Name)	Partner:		Actual Date:		33	
Milestone Definition:	Guillermo De written by Gu	lgado. Two A illermo Delgad	n analysis using interf ALMA Memos will be do) and another that	produced, on includes an u	e that focus pdated and	ses on calibra l expanded stu	tion effects (dra	aft was	
Definition box to edit text)	Other comme extends work been a lot mo delayed the n Cambridge po course with th	ents: Report of of Guillermo ore work than nemo. With th ortion of the te	ekly report 2003-Au n phase correction and Delgado. The team is foreseen on the analy e ongoing recruitmer eam hopes perhaps to ile.	nalysis using i s reprocessing ysis of the wir nt of a new Po	interferome g the 183 G nd power sp ostDoc to w	ter and radior GHz radiomete bectrum, which ork on phase	r data. There h h has further correction issue	as also es, the	
Critical Predecessor	'S								
Milestone #	Lead/Lag								
(See Milestones page)	(weeks)		Comments		Predecess	or Description	(if available)		
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Revision History Scheduled Date (dd-mmm-yyyy)	Date Changed	Plan Version	Comments						
11 2003-Jul-31	2003-Feb-14		Initial date estimate		by IPT				
12 2003-Sep-30	2003-Aug-26	2003aug26a	Update from biweek	ly repoort					
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ALMA Milestone Definition Sheet								WBS:	9.380.987	07
		Report on accu			sphere mod	els		-		ĺ
	evel 1 WBS#	-	(Science)		•					•
	rk Package #		(Science)							
	A Milestone #			2 Assigned l	by Project O	ffice; Level 3	assigned b	y IPT)		
Mil	estone Level	3	(1, 2, or 3)	Ü		•				
		2003-Sep-30	(Enter using	dd-mmm-	yyyy forma	t)				
		Science IPT			(Organizatio	on, IPT, or G	roun)	Completed:	No	Page
-	ole Individual				(Name)	Partner:	топр)	Actual Date:		34
					(110,110)					0.
	Milestone Definition:	Report on acc	curacy of mes esults presen					to dynamic scl).	neduling.	
	ck in Milestone ox to edit text)	atmosphere n	nodels and ap Ismus uses or	plicability to	o dynamic s	cheduling. I	Marc Saraz	zin was in cha	on accuracy of rge of the Eras reprocessed d	mus report.
Mil (See	redecessor estone # Milestones page)	S Lead/Lag (weeks)		Comments			Predecess	or Description	(if available)	
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11 2003-J		2003-Feb-14					by IPT			
12 2003-5	Sep-30	2003-Aug-26	2003aug26a	Biweekly u	pdate 2003	Aug 18				
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Α	LMA Mileston	e Definiti	on Shee	WBS: 9.380.98221						
	Milestone 98221	Draft of Design	Reference M	lission						
	Level 1 WBS #		(Science)							
Α	LMA Work Package #		(Science)							
	ALMA Milestone #			2 Assigned	bv Project C	Office; Level 3	assigned	by IPT)		
	Milestone Level		(1, 2, or 3)		. 	33		,		
S	cheduled Completion	2003-Oct-15	(Enter using	dd-mmm-	yyyy forma	ut)				
	Responsible Group	Science			(Organizati	ion, IPT, or G	Group)	Completed:	No	Page
R	esponsible Individual	Wootten, var	n Dishoeck		(Name)	Partner:		Actual Date:		35
	Milestone				i i					
	Definition:									
	(right click in Milestone									
	efinition box to edit text)									
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Cr	itical Predecessor									
	Milestone #	Lead/Lag								
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ALMA Mileston	e Definiti	on Shee	t		WBS:	WBS: 9.380.9820		
Milestone 9820					_			
Level 1 WBS #		(Science)					l	
ALMA Work Package #		(Science)						
ALMA Milestone #			2 Assigned by Project	Office: Level 3 assi	gned by IPT)			
				- 33	,, ,			
Milestone Level		(1, 2, or 3)						
Scheduled Completion	2003-Oct-31	(Enter using	dd-mmm-yyyy form	nat)				
Responsible Group	Science IPT		(Organiza	tion, IPT, or Group) Completed:	. No	Page	
Responsible Individual			(Name)	Partner: Both			36	
•			`					
Milestone	Submii alieri	teration with A	Antenna, FE, BE, Sys	tems, Computing				
Definition:								
/ ' 1 . 1' 1 ' 14'1 .			ekly report: "Calibra					
(right click in Milestone	departure of k	ey personnel	(Guilloteau, Butler, E	sacmann); 31 Octo	ober should be new	Level 2 milestor	ne date."	
Definition box to edit text)								
Critical Predecessor	s							
Milestone #	Lead/Lag							
(See Milestones page)	(weeks)		Comments	Pred	lecessor Description	(if available)		
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Revision History	- .							
Scheduled Date	Date	Plan						
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11 2003-Sep-30			Initial date estimate					
12 2003-Sep-30			Corrected date as su					
13 2003-Oct-31	2003-Sep-02	2003sepu2a	Revised date submit	ted with biweekly	героп.			
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ALMA Milest	one Definiti	on Sheet	WBS: 9.380.9822				
Milestone 9	822 Design Refere	nce Mission Sul	bmitted for approval				
Level 1 WB		(Science)					
ALMA Work Packag	g e # 380	(Science)					
ALMA Milestor			Assigned by Project (Office; Level 3 a	assigned by IPT)		
Milestone Le	evel 3	(1, 2, or 3)					
Scheduled Complet	tion 2003-Dec-31	(Enter using C	dd-mmm-yyyy form	at)			
Responsible Gro	oup Science		(Organizat	ion, IPT, or Gr	oup) Completed	: No	Page
Responsible Individ	lual Wootten, var	n Dishoeck	(Name)	Partner:	Actual Date	:	37
Milesto Definitio	on:						
(right click in Mileste Definition box to edit te							
Critical Predeces: Milestone # (See Milestones p.	Lead/Lag	С	omments	P	Predecessor Description	n (if available)	
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Scheduled Date (dd-mmm-yyyy)	Date Changed	Plan Version	Comments				
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ΑL	MA Mileston	e Definiti	on Shee	eet WE					9.380.982	10
	Milestone 98210									
	Level 1 WBS #		(Science)							
Αl	_MA Work Package #		(Science)							
	ALMA Milestone #			2 Assigned	by Project (Office; Level 3	assigned by	(IPT)		
	Milestone Level	3	(1, 2, or 3)	Ü		••				
Sc	heduled Completion	2003-Dec-31	(Enter using	dd-mmm-	-yyyy form	at)				
	Responsible Group	Science			(Oroanizat	ion, IPT, or G	Group)	Completed:	No	Page
Re	esponsible Individual		Wootten		(Name)	Partner:	(топр)	Actual Date:	110	38
	•				(
	Milestone	Drait of opera							alibrations, dyr	
	Definition:	scriculing, a						.g., when dete	ermining antenr	na location
,	(; _1,4 _1; _1, ; M:14	for a newly m	oved antenna	i, how man	y antennas	in total are r	needed?).			
	right click in Milestone finition box to edit text)	Um-lata 2002	C 00- D	0:11-	4 [Nahaaal aa	dal =======			
De	jiniiion vox io eaii iexi)	involve Opera		nove Guillo	iteau, van I	Jisnoeck; ac	ad Emersor	n. Status unci	ear, but this dra	art must
		invoive Opera	ations group.							
Cri	tical Predecessor									
	Milestone #	Lead/Lag								
	(See Milestones page)	(weeks)		Comments			Predecesso	or Description	(if available)	
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Re	vision History									
110	Scheduled Date	Date	Plan							
	(dd-mmm-yyyy)	Changed	Version	Comme	nts					
11	2003-Mar-30	2003-Feb-14	2003feb18a			s submitted l	by IPT			
12	2003-Jun-30	2003-May-23						av20		
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ΑI	MA Mileston	e Definiti	on Shee	eet WBS					9.380.982	14
	Milestone 98214				plan					
	Level 1 WBS #		(Science)		·					
Α	LMA Work Package #		(Science)							
	ALMA Milestone #			2 Assigned b	y Project O	ffice; Level 3	assigned b	y IPT)		
	Milestone Level	3	(1, 2, or 3)							
S	cheduled Completion	2003-Dec-31	(Enter using	dd-mmm-	yyyy forma	t)				
	Responsible Group	Science	_		(Organizati	on, IPT, or G	roup)	Completed	: No	Page
Re	esponsible Individual		opean Scienc	e IPT Lead	(Name)	Partner:	-	Actual Date	:	39
	Milestone Definition:	Update 2003-	-Sep-03: Rev	ision of draf	t (98206).	Requires inp	out from op	peartions grou	лр.	
De	tical Predecessor Milestone # (See Milestones page) 98205 98210	Lead/Lag (weeks)	(done) parallel with 9821	Comments			Draft of delay c	sor Descriptior alibration plan on model for calibrati		
		0		0						
3	98206		(done)				Draft of antenna	a location determinat	tion pian	
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11	(dd-mmm-yyyy) 2003-Jun-30	Changed 2003-Feb-14		Commen		s cubmitted k	ov IDT			
11 12	2003-3un-30 2003-Dec-31	2003-1 eb-14 2003-Sep-03					Ју IГ I			
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ΑL	MA Mileston	e Definiti	on Shee	t				WBS:	9.380.9845	1
	Milestone 98451	Science verific	ation plan for	commissio	ning drafted					
	Level 1 WBS #	9	(Science)							
Αl	_MA Work Package #	380	(Science)							
	ALMA Milestone #	98451	(Level 1 and	2 Assigned	by Project Off	ice; Level 3	assigned b	y IPT)		
	Milestone Level	3	(1, 2, or 3)							
So	heduled Completion	2003-Dec-31	(Enter using	dd-mmm-	yyyy format)				
	Responsible Group				(Organizatio	n, IPT, or G	roup)	_Completed:	No	Page
Re	esponsible Individual	Mangum, Dutrey, (Guilloteau, EU IP	T lead, Wootte	(Name)	Partner:		Actual Date:		40
	Milestone Definition:	ocience venii	cation plan dr	rafted						
		Update 2003-	Sep-03: Dela	yed. Add 6	months; no	t needed b	efore then			
	right click in Milestone finition box to edit text)									
Cri	tical Predecessor	e								
CII	Milestone #	Lead/Lag								
_	(See Milestones page)	(weeks)		Comments			Predecess	or Description	(if available)	
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Re	Scheduled Date (dd-mmm-yyyy)	Date Changed	Plan Version	Comme	nts					
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Αl	MA Mileston	e Definiti	on Shee	t	WBS: 9.380.98706					
	Milestone 98706	Report on heig	ht of turbulen	t layer						
	Level 1 WBS #		(Science)							
A	LMA Work Package #	380	(Science)							
	ALMA Milestone #	98706	(Level 1 and	2 Assigned	by Project Of	fice; Level 3	assigned b	y IPT)		
	Milestone Level	3	(1, 2, or 3)							
Sc	cheduled Completion	2003-Dec-31	(Enter using	dd-mmm-	-yyyy format)				
	Responsible Group	Science IPT			(Organizatio	n, IPT, or G	roup)	Completed:	No	Page
Re	sponsible Individual		erez, Rivera,I	Nyman, Ric	_	Partner:	* /	Actual Date:		41
	Milestone Definition:	Report on hei	ght of turbule	nt layer usi		neter and ra	adiometer (e with radioson	de data. Will
	Deminion.	be published	as an ALMA I	viemo.						
	(right click in Milestone	Update 2003-	Sep-03: Stut	us unclear;	no change	for now.				
De	efinition box to edit text)									
Cri	tical Predecessor									
	Milestone #	Lead/Lag								
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	(dd-mmm-yyyy)	Changed	Version	Comme	nts					
11	2003-Dec-31	2003-Feb-14	2003feb18a	Initial date	estimate as	submitted l	by IPT			
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ALMA Mileston	e Definiti	on Shee	t			WBS: 9.380.98704		
			recision hygromete	er measurements	S.			
Level 1 WBS #		(Science)	,,,					
ALMA Work Package #		(Science)						
ALMA Milestone #			2 Assigned by Proje	ect Office; Level 3	assigned by IF	T)		
Milestone Level	3	(1, 2, or 3)			0 ,	,		
			-1-1					
Scheduled Completion		(Enter using	dd-mmm-yyyy f	ormat)		_		
Responsible Group			(Organ	ization, IPT, or G		ompleted:	No	Page
Responsible Individual	Butler, Radfo	ord	(Name _,	Partner:	Α	ctual Date:		42
Milestone Definition:	Report on an	alysis of high	precision hygrome	ter measuremer	nts.			
	Update 2003	-Aug-18 biwe	ekl report: "Delay	until 2004-Jan-	31 Instrument	al problems	have prevented	
(right click in Milestone Definition box to edit text)		nalysis of that	data. (One does n					
Critical Predecessor	S							
Milestone #	Lead/Lag							
(See Milestones page)	(weeks)		Comments		Predecessor I	Description (if available)	
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Revision History Scheduled Date (dd-mmm-yyyy)	Date Changed	Plan Version	Comments					
11 2003-Jul-31			Initial date estima		by IPT			
12 2004-Jan-31	2003-Aug-26	2003aug26a	Biweekly report up	odate				
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ALMA Milesto	ne Definiti	on Sheet		WBS: 9.380.98301					
Milestone 983	01 Draft plan for	Early Science	configurations						
Level 1 WBS	6# 9	(Science)							
ALMA Work Package	≇# 380	(Science)							
ALMA Milestone	98301	(Level 1 and 1	2 Assigned by Project	Office; Level 3	assigned by IPT)				
Milestone Lev	vel 3	(1, 2, or 3)							
Scheduled Completic	on 2004-Feb-29	(Enter using	dd-mmm-yyyy fori	nat)					
Responsible Gro	up Science IPT		(Organize	ation, IPT, or G	roup) Complete	ed: No	Page		
Responsible Individu			(Name)	Partner:	Actual Da		43		
Milestor Definition	DIAN DIAN IOL	Early Science	configurations						
(right click in Mileston Definition box to edit tex									
Critical Predecess Milestone # (See Milestones page	Lead/Lag	(Comments		Predecessor Descripti	on (if available)			
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Revision History Scheduled Date (dd-mmm-yyyy)	Date Changed	Plan Version	Comments						
11 2004-Feb-29	2003-Feb-14	2003feb18a	Initial date estimate	as submitted b	oy IPT				
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ALI	MA Mileston	e Definiti	on Shee	neet WBS:					9.380.98353	3
	Milestone 98353				n					
	Level 1 WBS #	9	(Science)							
ALN	//A Work Package #	380	(Science)							
	ALMA Milestone #	98353	(Level 1 and	l 2 Assigned	by Project O	ffice; Level 3	assigned b	y IPT)		
	Milestone Level	3	(1, 2, or 3)							
Sch	eduled Completion	2004-Mar-30	(Enter using	dd-mmm-	yyyy forma	t)				
F	Responsible Group	Science			(Organizati	on, IPT, or G	roup)	Completed:	No	Page
	ponsible Individual		, John Richer,	, Mark Hold		Partner:	17	Actual Date:		44
	Milestone Definition:	Includes capa						_		
	ight click in Milestone nition box to edit text)									
Critic	cal Predecessor Milestone # (See Milestones page)	S Lead/Lag (weeks)		Comments			Predecess	or Description	(if available)	
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Α	LMA Mileston	e Definiti	on Shee	t	WBS: 9.380.98432					
	Milestone 98432	Plan for interfe	rometry tests	on ATF comp	lete					
	Level 1 WBS #	9	(Science)							
Α	LMA Work Package #	380	(Science)							
	ALMA Milestone #	98432	(Level 1 and	2 Assigned by	Project Of	fice; Level 3	assigned by	y IPT)		
	Milestone Level	3	(1, 2, or 3)							
s	cheduled Completion	2004-Mar-31	(Enter using	dd-mmm-yy	yy format)				
	Responsible Group			(() Prganizatio	n, IPT, or G	roup)	Completed:	No	Page
R	esponsible Individual				lame)	Partner:	· · · · · · · · · · · · · · · · · · ·	Actual Date:		45
	Milestone									
	Definition:	Update 2003- testing WVR,							at we need to k	know (e.g.,
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	Milestone #	Lead/Lag					B I		<i>((</i>	
4	(See Milestones page) 9650	(weeks)		Comments	_			or Description		
1 2	9050	13					Prototype Integration	on & Verification Plan (Q	4 2003 through Q4 2004) a	approved for Lab & ATF
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AL	MA Mileston	e Definiti	on Shee	t		9.380.9825			
	Milestone 9825				olete				
	Level 1 WBS #		(Science)						
ΔI	MA Work Package #		(Science)						
^_	ALMA Milestone #			12 Assigned by	Project Off	ice; Level 3 assi	oned by IPT)		
				. 2 115515nca 0 j	Trojeci Ojj	ice, Level 5 dissi,	snea by II 1)		
	Milestone Level		(1, 2, or 3)						
Scl	heduled Completion	2004-Jun-30	(Enter using	dd-mmm-y	yyy format)				
	Responsible Group	Science IPT		(Organization	ı, IPT, or Group) Completed:	No	Page
	sponsible Individual		an Dishoeck,	Wootten, D	Name)	Partner: Both	Actual Date:		46
	Milestone				•				
		Science aspe				ding core			
	Definition:	Turicuoris C	of Regional Su						
,	. 1. 1. 1. 1. 1.	Time allocat	ion policies fr	om Managen	nent IPT / A	LMA Board			
	right click in Milestone inition box to edit text)	11 1-1- 0000	0	0					L
Dej	inition box to eatt text)			6 months. L	epenas on	agreed operati	ions draft and calibra	ation strategy. A	ISO
		depends on 9	8214						
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Crit	ical Predecessor	S							
	Milestone #	Lead/Lag							
_	(See Milestones page)	(weeks)		Comments		Pred	lecessor Description	(if available)	
1	98214	17				Revise	ed antenna location determinat	ion plan	
2	98210	26				Draft o	of operation model for calibration	on	
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Rev	vision History								
	Scheduled Date	Date	Plan						
	(dd-mmm-yyyy)	Changed	Version	Comment	e				
11	2003-Dec-31					2003-Dec-15			
11 _	2003-Dec-31	2002-Nov-22 2003-Feb-14							
12 13	2003-Dec-31 2004-Jun-30					other depende	ancias		
14	2004-3011-30	2003-Зер-03	20003ep02a	rtevised date	s, based on	other depende	5110163		
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ΑI	LMA Mileston	e Definiti	on Shee	t				WBS:	9.380.9830	
	Milestone 9830				lete					
	Level 1 WBS #	9	(Science)							
Α	LMA Work Package #	380	(Science)							
	ALMA Milestone #	9830	(Level 1 and	2 Assigned by P	Project Off	ice; Level 3	assigned l	by IPT)		
	Milestone Level	2	(1, 2, or 3)							
So	cheduled Completion	2004-Jun-30	(Enter using	dd-mmm-yyy	(y format)					
	Responsible Group	_		(0)	rganization	ı, IPT, or G	roup)	Completed:	No	Page
Re	esponsible Individual				ame)	Partner:		Actual Date:		47
				(5.15)	,					
	Milestone Definition:	Plan for Early	Science conf	figurations com	plete.					
	(right click in Milestone									
$D\epsilon$	efinition box to edit text)									
Cri	tical Predecessor	e								
CII	Milestone #	S Lead/Lag								
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11	2004-Jun-30		2002nov22a	Initial date esti	imate was	s 2004-Jun	ı-15			
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Αl	MA Mileston	e Definiti	on Shee	t				WBS:	9.380.984	01
	Milestone 98401									
	Level 1 WBS #	9	(Science)							
ΑI	LMA Work Package #	380	(Science)							
	ALMA Milestone #	98401	(Level 1 and	2 Assigned by H	Project Of	fice; Level 3	assigned b	y IPT)		
	Milestone Level	3	(1, 2, or 3)							
Sc	cheduled Completion	2004-Jun-30	(Enter using	dd-mmm-yyy	yy format)				
	Responsible Group	Science		(O.	rganizatio	n, IPT, or G	roup)	Completed:	No	Page
Re	sponsible Individual		ay		ame)	Partner:		Actual Date:		48
	Milestone					-				
	Definition:	Comparison of and antennal			and fast s	scanning or	n prototype	antennas, ind	cluding tests of	OTF motion
		and antenna j	position readc	out.						
((right click in Milestone									
De	efinition box to edit text)									
Cri	tical Predecessor	9								
CII	Milestone #	Lead/Lag								
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Re	vision History									
	Scheduled Date	Date	Plan							
	(dd-mmm-yyyy)	Changed	Version	Comments						
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ALMA Mil	leston	e Definiti	on Shee	t				WBS:	9.380.9840	2
Milesto	ne 98402	Report on proto	otype antenna	a pointing in v	varying win	d condition	S			
Level	I 1 WBS #	9	(Science)							
ALMA Work F	Package #	380	(Science)							
ALMA Mi	ilestone #	98402	(Level 1 and	2 Assigned by	y Project O <u>j</u>	fice; Level 3	assigned b	y IPT)		
Milesto	one Level	3	(1, 2, or 3)							
Scheduled Co	mpletion	2004-Jun-30	(Enter using	dd-mmm-y	yyy forma	t)				
Responsik	ole Group	Science		(Organizatio	on, IPT, or G	Froup)	_Completed:	No	Page
Responsible I	Individual	Jeff Mangum	(?)	(.	Name)	Partner:		Actual Date:		49
De	ilestone finition:							-		
(right click in Definition box to										
Critical Pred Milesto (See Miles		S Lead/Lag (weeks)		Comments			Predecess	or Description	(if available)	
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ALMA Mile	ston	e Definiti	on Shee	t				WBS:	9.380.984	52
	_	Science verific			ning revised	d				
Level 1	WBS#	9	(Science)							•
ALMA Work Pag	ckage #		(Science)							
ALMA Mile	stone #	98452	(Level 1 and	2 Assigned	by Project O	ffice; Level 3	assigned by	y IPT)		
Mileston	e Level	3	(1, 2, or 3)							
Scheduled Com	pletion	2004-Jun-30	(Enter using	dd-mmm-	yyyy forma	t)				
Responsible	Group	Science IPT			(Organizatio	on, IPT, or G	roup)	Completed:	No	Page
Responsible Inc	-		trey, Guillotea	au, van Dish		Partner:	, oup)	Actual Date:		50
-	stone				, ,			-		
	nition:	Revised plan verification.	for science ve	erification, in	ncluding sep	parate plans	for each r	eceiver band,	and plans for r	mosaicing
(right click in M	ilestone									
Definition box to e										
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Milestone (See Milestor		Lead/Lag (weeks)		Comments			Dradacass	or Description	(if available)	
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ALMA Mileston	e Definiti	on Shee	t				WBS:	9.380.983	5
Milestone 9835				operations			_		
Level 1 WBS #		(Science)		•					
ALMA Work Package #	380	(Science)							
ALMA Milestone #	9835	(Level 1 and	2 Assigned	by Project Of	fice; Level 3	assigned	by IPT)		
Milestone Level	2	(1, 2, or 3)							
Scheduled Completion	2004-Sep-30		dd-mmm-	yyyy formai	·)				
Responsible Group		, 0		•	on, IPT, or G	roun)	Completed:	No	Page
Responsible Individual		Hills, M. Hold	away, J. Pa		Partner:		Actual Date:		51
-				(-
Milestone Definition:	HOW								
Definition:		do we use the		used as a t	ipper, tau a	ccuracy,			
(right click in Milestone	use as fun	ction of locati	on on site.						
Definition box to edit text)	Selected WVI	R device to be	e deployed a	at ATF as so	oon as test i	interferon	neter phase sta	ble in early 200	5 See
•	related FE mi							,	
	Update 2003	-Sep-03 : Dep	ends critica	lly on delive	ry date for \	MVR, ava	allability dates f	or ATF interfero	meter, etc.
Critical Predecessor	S								
Milestone #	Lead/Lag								
(See Milestones page)	(weeks)		Comments			Predeces	sor Description	(if available)	
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11 2004-Sep-30 12 2004-Sep-30	2002-Nov-22 2003-Feb-14					0-15			
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ΑI	ALMA Milestone Definition Sheet WBS: 9.380.9840 Milestone 9840 Review of tests of calibration strategies on prototype interferometer complete										
					n prototype	interferor	neter com	plete			
	Level 1 WBS #	9	(Science)					<u> </u>			
Α	LMA Work Package #	380	(Science)								
	ALMA Milestone #	9840	(Level 1 and	2 Assigned by	Project Offi	ce; Level 3	assigned l	by IPT)			
	Milestone Level	2	(1, 2, or 3)								
So	cheduled Completion	2004-Dec-31		dd-mmm-y	yyy format)						
	Responsible Group				Organization	IPT or G	roun)	Completed:	No	Page	
Re	esponsible Individual					Partner:		Actual Date:	140	52	
	· ·			(1	vanic)	r di tiloi.	Dotti	Actual Date.		02	
	Milestone Definition:	Review of tes	ets of calibration								
	(right click in Milestone efinition box to edit text)	Depends on f	irst fringes +	~4 months							
Cri	tical Predecessor Milestone # (See Milestones page)	S Lead/Lag (weeks)		Comments			Pradacas	sor Description	(if available)		
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Αl	MA Mileston	t				WBS:	9.380.98431	1		
	Milestone 98431	Tests of dynam	on interfero	meter at A	TF.					
	Level 1 WBS #		(Science)							
ΑI	LMA Work Package #		(Science)							
	ALMA Milestone #			l 2 Assigned b	y Project O	ffice; Level 3	assigned b	y IPT)		
	Milestone Level	3	(1, 2, or 3)	_						
Sc	cheduled Completion	2005-Jan-31	(Enter using	dd-mmm-	yyyy forma	t)				
	Responsible Group	Science			(Organizatio	on, IPT, or G	Froup)	_Completed:	No	Page
Re	esponsible Individual	Mark Holdaw	ay		(Name)	Partner:		Actual Date:		53
	Milestone Definition:									
De	(right click in Milestone efinition box to edit text) tical Predecessor Milestone #	'S Lead/Lag								
	(See Milestones page)	(weeks)		Comments			Predecess	or Description	(if available)	
1	98221						Draft of Design	Reference Mission		
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Α	LMA Mileston			WBS:	9.380.984	.3				
	Milestone 9843				ATF inter	ferometer				
	Level 1 WBS #	9	(Science)							•
Α	LMA Work Package #	380	(Science)							
	ALMA Milestone #	9843	(Level 1 and	2 Assigned by F	Project Offi	ice; Level 3	assigned by	(IPT)		
	Milestone Level	2	(1, 2, or 3)							
S	cheduled Completion	2005-May-30	(Enter using	dd-mmm-yyy	(y format)					
	Responsible Group			(0)	rganization	ı, IPT, or G	roun)	Completed	No	Page
R	esponsible Individual				ame)	Partner:	, oup)	Actual Date		54
	Milestone			· ·	,					
	Definition:	Review of tes		on strategies or f these tests aff					a prototype reconeter imaging.	eiver,
	(right click in Milestone efinition box to edit text)									
Cri	itical Predecessor	S								
	Milestone #	Lead/Lag								
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	Scheduled Date (dd-mmm-yyyy)	Date Changed	Plan Version	Comments						
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ΑI	LMA Mileston	e Definiti	on Shee	t				WBS:	9.380.9845	
	Milestone 9845	Science verific	cation plan for	commissio	ning submit	ted				
	Level 1 WBS #	9	(Science)							
Α	LMA Work Package #	380	(Science)							
	ALMA Milestone #	9845	(Level 1 and	2 Assigned	by Project O	ffice; Level 3	assigned by	y IPT)		
	Milestone Level	2	(1, 2, or 3)							
So	cheduled Completion	2005-Jun-30	_	dd-mmm-	yyyy forma	t)				
	Responsible Group	_	, 0		_	on, IPT, or G	(roun)	Completed:	No	Page
R	esponsible Individual		an Dishoeck.	Wootten	(Name)	Partner:	тоир)	Actual Date:		55
111	_		ari Biorioccit,	TT COLLOTT	(Ivame)	i ai tilei.		Actual Date.		55
	Milestone Definition:	acience venii	cation plan su	ıbmitted						
	(right click in Milestone efinition box to edit text)									
Cri	itical Predecessor									
	Milestone #	Lead/Lag								
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	Milestone 9870	erations								
	Level 1 WBS #		(Science)			•				
Α	LMA Work Package #	380	(Science)							
	ALMA Milestone #	9870	(Level 1 and	2 Assigned by	Project Off	îce; Level 3	assigned by	y IPT)		
	Milestone Level	2	(1, 2, or 3)							
S	cheduled Completion	2006-Jan-31	(Enter using	dd-mmm-yy	yy format))				
	Responsible Group			((Organizatio	n, IPT, or G	roup)	Completed:	No	Page
Re	esponsible Individual		nan		Vame)	Partner:	, oup)	Actual Date:		56
	Milestone			\\	,					
	Definition:	Definition of s	ite characteri	zation instrum	entation fo	or ALMA op	perations ir	n consultation	with Calibration	group.
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Re	evision History									
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11	2006-Jan-31	2003-Jan-24						Initial date was	s 2011-Dec-31?	")
12	2006-Jan-31	2003-Feb-14	2002feb18a	Revised date	as submit	ted by IPT				
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ALMA Milestone Definition Sheet Milestone 98501 Science verification of ALMA early science array Bands 3, 6, & 7 begin								WBS:	9.380.985	01
	Milestone 98501 Science verification of ALMA early science array Bands 3, 6, & 7 begins									
	Level 1 WBS #	9	(Science)							
Α	LMA Work Package #		(Science)							
	ALMA Milestone #	98501	(Level 1 and	2 Assigned	by Project Of	fice; Level 3	assigned b	y IPT)		
	Milestone Level	3	(1, 2, or 3)							
S	cheduled Completion	2007-Apr-30	(Enter using	dd-mmm-	-yyyy format)				
	Responsible Group	Science IPT			(Organizatio	n, IPT, or G	roup)	Completed:	No	Page
R	esponsible Individual		an Dishoeck, '	Wootten	(Name)	Partner:	1 /	Actual Date:		57
	Milestone							_		
	Definition:	Science veriii		IA early sci	ence array w	ith Bands 3	3, 6 and 7	begins. Assum	nes Band 3 and	Band 6 anc
	20	7 COMMISSION	ieu:							
	(right click in Milestone									
D_{i}	efinition box to edit text)									
	W. 18									
Cr	itical Predecessor									
	Milestone # (See Milestones page)	Lead/Lag (weeks)		Comments			Dradacass	or Description	(if available)	
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Al	ALMA Milestone Definition Sheet WBS: 9.380.9850 Milestone 9850 Science verification of ALMA early science array Bands 3, 6, & 7 complete										
	Milestone 9850	Science verific	ation of ALM	A early scie	nce array Ba	ands 3, 6, 8	7 complet	te			
	Level 1 WBS #	9	(Science)	-	-						
Α	LMA Work Package #		(Science)								
	ALMA Milestone #			2 Assigned l	by Project Of	fice: Level 3	assigned by	v IPT)			
	Milestone Level		(1, 2, or 3)			,,		,			
So	cheduled Completion	2007-Jul-31	(Enter using	dd-mmm-	yyyy formai	·)					
	Responsible Group	Science IPT			(Organizatio	on, IPT, or G	roup)	Completed:	No	Page	
Re	esponsible Individual		an Dishoeck,	Wootten	(Name)	Partner:	1 /	Actual Date:		58	
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	Milestone Definition: (right click in Milestone	Science verili	and 7 compl	ete	-						
De	tical Predecessor Milestone # (See Milestones page)	S Lead/Lag (weeks)		Comments			Predecesso	or Description	(if available)		
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12	2007-Jul-31	2003-Feb-14	2002feb18a	Corrected of	date as subi	mitted by IP	T				
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ALMA Milestone Definition Sheet							WBS: 9.380.8045					
Milestone 8045												
Level 1 WBS #	9	(Science)										
ALMA Work Package #	380	(Science)										
ALMA Milestone #	8045	(Level 1 and	l 2 Assigned l	by Project O <u>j</u>	fice; Level 3	assigned	by IPT)					
Milestone Level	1	(1, 2, or 3)										
Scheduled Completion	2007-Sep-30		dd-mmm-	yyyy forma	t)							
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Responsible Individual				(Name)	Partner:		Actual Date:		59			
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Definition:												
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Definition box to edit text)												
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Revision History												
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ALMA Milestone Definition Sheet							WBS: 9.380.98551				
	Milestone 98551				gins						
	Level 1 WBS #	9	(Science)								
ALMA V	Nork Package #	380	(Science)								
AL	.MA Milestone #	98551	(Level 1 and	2 Assigned b	y Project Of	fice; Level 3	assigned by	y IPT)			
	Milestone Level	3	(1, 2, or 3)								
Schedu	led Completion	2008-Jun-30	(Enter using	dd-mmm-y	yyy formai	·)					
Res	ponsible Group	Science IPT			(Organizatio	on, IPT, or G	roup)	Completed:	No	Page	
Respon	sible Individual	Guilloteau, va	an Dishoeck, '	Wootten	(Name)	Partner:		Actual Date:		60	
	Milestone Definition:										
	click in Milestone n box to edit text)										
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Αl	MA Mileston	e Definiti	on Shee	t	WBS: 9.380.9855							
	Milestone 9855	Science verific	cation of ALM	A Band 9 co	mplete							
	Level 1 WBS #	9										
A	LMA Work Package #	380	(Science)									
	ALMA Milestone #	(Level 1 and 2 Assigned by Project Office; Level 3 assigned by IPT)										
	Milestone Level	2 (1, 2, or 3)										
So	cheduled Completion											
	Responsible Group	Science IPT			Organization	n. IPT. or G	roup)	Completed:	No	Page		
Re	esponsible Individual		an Dishoeck,		(Name)	Partner:	, oup)	Actual Date:		61		
	Milestone			\								
	Definition:	verification of any bands not included in early science array										
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Cri	tical Predecessor											
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ALMA Milestone Definition Sheet								WBS:	9.380.9860	
	Milestone 9860	Science verific	cation of ALM	A imaging q	uality					
	Level 1 WBS #	9	(Science)							
Α	LMA Work Package #	380	(Science)							
	ALMA Milestone #	9860	(Level 1 and	2 Assigned	by Project O	ffice; Level 3	assigned by	y IPT)		
	Milestone Level	2	(1, 2, or 3)							
S	cheduled Completion	2009-Dec-31	(Enter using	dd-mmm-	yyyy forma	t)				
	Responsible Group				(Organizati	on, IPT, or G	(roun)	Completed:	No	Page
Re	esponsible Individual		Holdaway, J.	Pardo, S. N		Partner:	тоир)	Actual Date:		62
	· ·			. a.a.,	(110000)			7.0.00.		02
	Milestone Definition:	Requires 32 /	Antennas, 32	FE, 2 quadı	ants correla	ator, comput	ting; + 4 we	eeks		
	(right click in Milestone									
$D\epsilon$	efinition box to edit text)									
Cri	tical Predecessor	e								
011	Milestone #	Lead/Lag								
	(See Milestones page)	(weeks)		Comments			Predecesso	or Description	(if available)	
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	Scheduled Date	Date	Plan							
	(dd-mmm-yyyy)	Changed	Version	Commer						
11	2009-Dec-31	2002-Nov-22								
12	2009-Dec-31	2003-Feb-14	2002feb18a	Revised da	ite as subm	itted by IPT				
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ALMA Milestone Definition Sheet							WBS: 9.380.9865					
	Milestone 9865				у							
	Level 1 WBS #	9 (Science)										
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	ALMA Milestone #	9865	(Level 1 and 2 Assigned by Project Office; Level 3 assigned by IPT)									
	Milestone Level	2 (1, 2, or 3)										
Sc	heduled Completion											
	Responsible Group	Science IPT			(Organizatio	on, IPT, or G	Froup)	Completed:	No	Page		
Re	sponsible Individual		an Dishoeck, '	Wootten	(Name)	Partner:	* /	Actual Date:		63		
	Milestone Definition:	resi & vennca	ation of specif	ïc modes, a	arrays (ACA	?), 64 anten	nnas,					
	right click in Milestone finition box to edit text)											
Crit	tical Predecessor Milestone # (See Milestones page)	S Lead/Lag (weeks)		Comments			Predecess	or Description	(if available)			
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ALMA Milestone Definition Sheet							WBS: 9.380.8055					
Mile	stone 8055	Start of full Sci	ence Operatio	ons								
	el 1 WBS#		(Science)									
ALMA Work			(Science)									
	Milestone #			l 2 Assigned	by Project Oj	fice; Level 3	assigned	by IPT)				
	stone Level		(1, 2, or 3)	O	, ,	, .	O	,				
Scheduled (Completion	2012-Mar-31	(Enter using	dd-mmm-	yyyy forma	t)						
Respons	ible Group	Science IPT			(Organizatio	on, IPT, or G	roup)	Completed:	No	Page		
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Critical Pre	dococcor	c										
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