WP	CASU WP name /sub task / 05Q3m1 deliverables	Staff	Prog	Prog	Prog	Textual Summary
#			05Q2	Jul	Aug	
1	**Management and definition of project responsibilities**					
1.1	report to VISTA, UKIDSS, JAC, ATC, GSC	all	25	28	31	
	meeting minutes, monthly reports, quarterly review/reports & planning. prepare for, attend and give talks at UKIDSS survey heads and SV meetings (27 Jul, 18 Aug). prepare for, attend and give talks at VDUC meeting (6 Sep). produce draft functionality document for VDMT ... VDUC. hold regular telecons with JAC.					held minuted CASU meeting. MJI, STH, MR, EGE attended and presented at SV meeting. Draft functionality document circulated for comment prior to VDUC. CASU hosting next WFCAM Cal and UKIDSS SciVer meetings 20th and 21st September. One telecon held with JAC on 16 Aug
1.2	interface control document between CASU and JAC	MJI	100	100	100	completed
1.3a	interface control document between CASU and WFAU (WFCAM)	MJI	100	100	100	completed
1.3b	interface control document between CASU and WFAU (VISTA)	PSB	0	0	0	
	liaise with WFAU, camera and telescope team for design of VISTA FITS headers for input to ICD					no progress
1.4a	define WFCAM data structures and FITS headers	MJI, JRL, PSB	100	100	100	completed
1.4b	update proposed VISTA FITS headers as necessary	PSB	20	25	25	
	monitor and update proposed VISTA FITS headers. give feedback on test FITS files. test conformance of output FITS files with ICD.					no further progress
1.5a	define WFCAM observing protocols	STH, DWE	60	65	70	
	monitor and update MSB guidelines. monitor observing efficiency and report.					advised on MSB structure for UKIDSS surveys
1.5b	define VISTA observing protocols	PSB	20	25	25	
	liaise with development team					continued review of current simulator
1.6a	liaise with UKIDSS&JAC on WFCAM obs strategy, surveys planning	STH	50	55	55	
	liaise and monitor progress					nothing to report
1.6b	liaise with Proj. Sci. on VISTA observing strategy & survey planning	PSB	25	28	31	
	liaise and monitor progress					nothing to report
1.7a	liaise with VDUC on VDFS products for WFCAM	STH, MJI, JRL	55	55	55	
	liaise and monitor progress. finalise reports on results from WFCAM 05A SV data. update Simon Dye on SV analysis progress					updated SV report.
1.7b	liaise with VDUC on VDFS products for VISTA	MJI, STH	25	25	31	
	liaise and monitor progress. assess and prioritise work required for extra UK VDFS products. revisit WPs for V1-5 in lieu of above					went through UK URD requirements and assessed which are already met and work required for "new" requirements
1.8a	liaise with UKIDSS and JAC on survey progress DB (WFCAM)	JRL	50	50	50	
	maintain OMP database mirror to be used with survey progress database, incl. simplified user interface					no further progress
1.8b	liaise with VDUC and ESO on survey progress DB (VISTA)		0	0	0	on hold
1.9	system documentation	DWE,EGS,MR	25	28	31	
	update and maintain web pages of system docs					Various updates to the Plone pages. Upgraded to V2.1

1.10	VST processing preparation	EGS, MJI	10	10	15	
	monitor, assess and respond to VST proposal feedback and re-submission					drafting section of DP deliverables
2	**ESO VISTA software interface deliverables and documentation**					
2.1	DFS impact document	PSB	80	95	95	
	update documents					produced locally signed version V1.2
2.2	Calibration Plan document	PSB	80	90	95	
	update documents					produced locally signed version V1.2
2.3	Data Reduction Library Design document	PSB	80	95	95	
	update documents					produced locally signed version V1.2
2.4	Data Reduction Library					subsumed into 2.3
2.5	ICD ESO/VPO	PSB	5	5	5	
	update FITS header doc and DID/DIC and data dictionary files					no progress
2.6	Instrument specification and interface documents	PSB	6	6	6	
	develop integration tests in CPL & QFITS environment					no progress
2.7	Delivery software modules for exposure time calculator	STH, PSB	60	80	90	
	finish updated ETC doc. produce C versions of ETC software modules					update ETC doc finished bar cosmetics. C code completed and included
2.8	liaise with VISTA IR camera development team	PSB	25	25	30	
	continue liaising with VISTA IR camera development team					tested new sequences
2.9	Development of DQC measures	PSB	5	5	5	
	update QC measures as needed in light of test data					no progress
2.10	Documents for software modules	PSB	0	0	0	
3	**Pipeline infrastructure and pipeline progress monitoring tools**					
3.1	interactive tools for running pipeline	JRL	75	75	75	
	update tools in the light of 05A experience and document					no further progress
3.2	high level scripts to interrogate headers	MR, EGE	60	65	75	
	update header interrogation scripts and test					A lot more development on the DQC archive. Database schema implemented and tested. Ingestion script and www interface also under development. Postage stamp viewer built. First version imminent.
3.3	automatic progression of results to web pages	MR	55	60	65	
	maintain and update web-based pipeline progress web page					WWW pages now show top level progress of pipeline. Low level progress awaiting final snippets of XML
3.4	automatic checks to spot failure of pipeline	JRL	20	30	30	
	continue developing scripts to pick out problem datasets					no further progress
3.5a	Tools for fixing problem datasets (WFCAM)	JRL	25	25	25	
	continue developing tools to handle problems in WFCAM data					no further progress
3.5b	Tools for fixing problem datasets (VISTA)		0	0	0	on hold
3.6	group documentation on pipeline infrastructure	STH, JRL	60	65	65	
	stress test documentation and update as necessary					no progress this month
3.7a	Oversee reprocessing WFCAM data after bug fixes/improvements	MR	30	35	40	
	reprocess science data from 05A as necessary					Oversaw reprocessing of SV1 data
3.7b	Oversee reprocessing VISTA data after bug fixes/improvements		0	0	0	on hold
4	**Set up and manage raw science archive**					
4.1	extend UKIRT archive to cope with WFCAM data	JRL, MR	65	65	70	

	improve front page entry point of WFCAM raw data archive. initiate, manage and monitor WFCAM-ESO raw data transfers					All of 05A data now transferred to ESO (apart from one night). Improved the raw data archive entry page
4.2a	Ingest and verify WFCAM data	MR, MJI	25	25	25	
	ingest and verify 05B WFCAM data					awaiting new data
4.2b	Ingest and verify VISTA data		0	0	0	on hold
5	**Set up and manage data processing system hardware**					
5.1	Investigate alternatives (benchmarking, reliability etc)	MJI, PSB, JMI	100	100	100	completed
5.2	buy hardware and install	PSB, JMI, MJI	100	100	100	completed
5.3	integrating and testing	PSB, JMI	100	100	100	completed
5.4	Manage day-to-day maintenance and upgrades	PSB, JMI	25	28	31	
	continue maintenance and upgrade programme					ordered more disk servers for WFCAM data
5.5	Hardware additions for further processing system		0	0	0	
	monitor need for extra hardware for further processing	MJI				no requirement identified yet
6	**Run standard pipeline**					
6.1a	Update WFCAM master calibration frames	MJI, JRL	9	12	15	
	continue updating and testing calibration frames					created a series of calibration frames and transferred to JAC
6.1b	Update VISTA master calibration frames		0	0	0	on hold
6.2a	Monitor detector performance WFCAM	JRL, MR	9	12	15	
	monitor with 05A and 05B data					Analysis of the flat and sky properties continued and reported on
6.2b	Monitor detector performance VISTA		0	0	0	on hold
6.3a	oversee standard processing WFCAM	MR	9	12	15	
	oversee 05B data					awaiting new data
6.3b	Oversee standard processing VISTA		0	0	0	on hold
6.4a	Astrometric calibration WFCAM	MJI	9	12	15	
	recalibrate 05A and 05B data					calibration up to date
6.4b	Astrometric calibration VISTA		0	0	0	on hold
6.5a	Photometric Calibration WFCAM	STH	9	12	15	
	calibrate using 2mass and continue developing secondary standards system, Ces etc					update C.E.'s using better colour range of SV1 data
6.5b	Photometric Calibration VISTA		0	0	0	on hold
6.6a	Verify Science products and monitor DQC measures WFCAM	EGS, MJI	9	12	15	
	assess 05A and 05B data					SV of products ongoing see http://apm15.ast.cam.ac.uk/casudocs/wfcam/science-verification
6.6b	Verify Science products and monitor DQC measures VISTA		0	0	0	on hold
6.7	Monitor data product transfer to WFAU	MR, MJI	9	12	15	
	continue data transfer to WFAU and monitor					data transfer working well
6.8a	Reprocess WFCAM data	MR	9	12	15	
	reprocess if major bug fixes					reprocessed data to ~April to fix pipeline stacking bug
6.8b	Reprocess VISTA data		0	0	0	on hold
7	**Development work for summit pipeline**					
7.1a	Interface test pipelines in ORAC-DR	JRL	100	100	100	completed
7.1b	Interface test pipelines to VISTA summit DR	JRL	0	0	0	on hold
7.2a	implement WFCAM pipeline at summit	JRL	80	90	90	
	update and maintain					more work done to include new DQC measures
7.2b	Implement VISTA pipeline at summit	JRL	0	0	0	on hold

7.3a	documentation for ORAC-DR interface	JRL	60	60	60	
	update and deliver documentation as development proceeds					no further progress
7.3b	documentation for interface VISTA	JRL	0	0	0	on hold
7.4a	upgrade and maintain summit pipeline WFCAM	JRL	25	35	35	
	update and maintain as required					no further progress
7.4b	upgrade and maintain summit pipeline VISTA	JRL	0	0	0	on hold
8	**Development and testing of standard 2d processing**					
8.1a	further development of standard pipeline for WFCAM	JRL	80	80	85	
	finish implementing new version of imcore to include full param set					full std parameter set included and tested. New version of imcore completed. New versions of master flat and confidence map generation routines written and tested.
8.1b	development of VISTA specific packages	JRL	0	15	15	
	write version 0.1 CPL recipes and modules					no further progress
8.2a	liaison with WFCAM development team	JRL	25	28	31	
	continue telecons and discussions. produce and prototype cross-talk correction. finish characterising image persistence and assess strategies to deal with it					cross-talk prototype finished and on trial
8.2b	liaison with Project Scientist & VISTA development team	MJI	25	28	31	
	assess any new detector engineering test data					devised algorithm and measured VISTA intra-pixel capacitance
8.3a	partake in planning WFCAM commissioning observations	STH	100	100	100	WFCAM commissioning completed
8.3b	partake in planning VISTA commissioning observations	STH	0	0	0	
	liaise and discuss with camera PS and VISTA PS					no progress
8.4a	Participate directly in commissioning WFCAM	STH	100	100	100	completed
8.4b	Participate directly in commissioning VISTA	STH	0	0	0	on hold
8.5a	Tuning pipeline during commissioning and after WFCAM	MJI, JRL, EGS	40	40	40	
	keep on tuning as newer data comes in. further assessment of the quality and stability of master calibration data. assess quality of science output					no major tuning
8.5b	Tuning pipeline during commissioning and after VISTA	MJI, JRL, EGS	0	0	0	on hold
8.6a	documentation for 2D processing software WFCAM	JRL	50	50	50	
	update docs as necessary					no progress
8.6b	documentation for additional 2D processing software VISTA	JRL	0	10	10	
	document within recipe and module C code in doxygen compatible format					no further progress
8.7	Comparison between automated and manual data products	STH	50	55	55	
	assess CASU processed WFCAM SV data in conjunction with CSV and Survey Heads					assessing CASU processed WFCAM SV data in conjunction with SV'ers
9	**Development and testing of standard catalogue products**					
9.1	add in new measures requested	MJI	60	60	100	all new measures added. STD parameters tuned
	finish implementation of new measures and tuning of all std parameters					
9.2a	refine astrometric calibration model	MJI	85	85	85	
	refine astrometric model after final shimming adjustments of camera					awaiting 05B data
9.2b	refine astrometric calibration model - VISTA specific	MJI	0	0	0	on hold
9.3	generate model simulations of expected data	STH	100	100	100	completed
9.4	assess catalogue parameter reliability	MJI	70	70	70	
	refine parameter error estimates and check for systematics in new params, finish in conjunction with 9.1					no progress
9.5	intercomparison of catalogue products with other packages	MJI	100	100	100	completed
9.6	Completeness	MJI, EGS	10	30	35	
	design and report on completeness model, check completeness [9.6] and error estimates and parameter reliability [9.4]					more test completed, see http://apm15.ast.cam.ac.uk/casudocs/wfcam/science-verification. Still to do: galaxy completeness, incorporate catalogue errors
9.7	documentation of catalogue software and products	MJI	55	55	60	

	update catalogue products documentation					updated catalogue products document
10	**Setup trial and run further processing pipeline**					
10.1	Manage and run further processing stages		0	0	0	placeholder (start in Q3)
10.2	development and assessment of PSF options 1,2	DWE	65	70	75	
	run prototype code for PSF levels 1,2 on 05A data					astrometric limitations versus exposure time tested. Quick test of interleave vs dither
10.3	develop 1D/2D PSF-deconvolved Sersic profile fits	MJI	0	0	0	
	prototype methods for Sersic profile fitting					no progress
10.4	Develop LSBG/nebulosity detection/parameterisation	MJI	0	0	0	
	investigate feasibility of nebulosity detection					on hold til "crud" problems re-assessed
10.5	Full iterative profile fitting for stellar images		0	0	0	paused
10.6	Develop and optimize Bayesian image classification	MJI	10	30	30	
	trial Bayesian classification schemes					prototype written - needs more testing
10.7	Modeling and simulations of further processing steps		0	0	0	
	simulate WFCAM data and cf with code developed in 10.2					no progress
11	**Photometric standards and calibration**					
11.1	Agree on primary standards (WFCAM + VISTA)	STH	100	100	100	completed
11.2	Choose secondary standards (WFCAM + VISTA)	STH	80	80	80	
	add in last few proposed standards and update doc					no progress
11.3a	take part in commissioning observations WFCAM	STH	100	100	100	phase II on-sky characterisation - completed
11.3b	take part in commissioning observations VISTA	STH	0	0	0	on hold
11.4a	Reduce data, compute zero points and colour equations WFCAM	STH	25	35	45	
	compute WFCAM photometric zeropoints from commissioning data. update colour terms relative to 2MASS and UKIRT FS					findings present at UKIDSS SciVer. Report to be presented at WFCAM Cal WG meeting Sept 21st. Due for release 9th Sept.
11.4b	Reduce data, compute zero points and colour equations VISTA	STH	0	0	0	on hold
11.5	Update, maintain and extend secondary standards system	STH	0	0	0	
	begin building secondary standard fields system					no progress
11.6	Investigate photometric calibration field systematics WFCAM+VISTA	STH	0	20	20	
	investigate photometric calibration systematics					no further progress
11.7	assess extinction monitoring methods and develop measures	STH	50	60	60	
	use 2MASS comparison to get first order estimate and assess expected accuracy in light of results from UKIRT FS					no further progress
12	**Further development of DQC measures at summit and Cambr**					
12.1	develop extra systematic noise measures	MJI	75	80	80	
	finished for WFCAM; awaiting VISTA test files					no further progress
12.2	Refine current measures for WFCAM/VISTA data	JRL, MJI	25	30	35	
	continue monitoring the DQC assessment by visually checking random sub-sample					DQC monitoring continues
12.3	implement 2mass for throughput measurement	JRL	100	100	100	implemented local access version at summit - completed
12.4	master calibration frames for detector monitoring	JRL	40	50	50	
	continue monitoring using 05A and 05B WFCAM data					no further progress
13	**Co-located list driven photometry**					
13.1	test methods for master catalogue generation	MJI	100	100	100	completed
13.2	develop basic WCS-based list driven photometer	MJI	90	95	95	
	extend to full 80 parameter set					finished code development, testing via time series and colour
13.3	externally driven WCS photometry and define parameter set	MJI	75	80	95	
	extend to full 80 parameter set					finished code development, testing via time series and colour

14	**Stacking and mosaicing**					
14.1	develop benchmark simple stacking/mosaicing framework	MJI	100	100	100	completed
14.2	NN algorithm with simple rejection	MJI	100	100	100	completed
14.3	More sophisticated rejection dealing with pixilation	MJI	100	100	100	completed
14.4	Stacking with optimum weighting and defect rejection	MJI	25	25	25	
	refine using WFCAM deep survey data					no further progress
14.5	Advanced stacking/image restoration for variable PSF	MJI	0	0	0	
	TBD as part of UK design review					no progress
15	**Continuum subtraction and basic difference imaging**					
15.1	Simple WCS-based subtraction techniques	MJI	100	100	100	completed
15.2	investigate and apply different interpolation methods	MJI	100	100	100	completed
15.3	develop adaptive kernel matching option	MJI	80	80	80	
	continue debugging and enhancements to adaptive kernel package					no further progress
15.4	transient event detection	STH	20	20	20	
	continue with WASP, INT WFC and APT datasets					no further progress
16	**Interpolation techniques and PSF modeling**					
16.1	investigate alternative interpolation/PSF schemes	DWE	100	100	100	completed
16.2	implications for different stacking methods	DWE	25	30	30	no further progress
	trial different stacking options for WFCAM deep surveys					
16.3	implications for deriving catalogues and parameters	DWE	75	80	80	
	finish testing of astrometric refinement code					see 10.2
16.4	oversampled PSF generation per detector	DWE	100	100	100	completed
16.5	develop oversampled spatially varying PSF model	DWE	25	30	30	
	asess if spatially varying PSF model required, test on 05B data					no progress