

**S1. GENERAL INFORMATION** Complete for all satellite applications.

a. Space Station or Satellite Network Name: INTELSAT 701		e. Estimated Date of Placement into Service:		i. Will the space station(s) operate on a Common Carrier Basis: N	
b. Construction Commencement Date:		f. Estimated Lifetime of Satellite(s): Years		j. Number of transponders offered on a common carrier basis:	
c. Construction Completion Date:		g. Total Number of Transponders: 44		k. Total Common Carrier Transponder Bandwidth: MHz	
d1. Est Launch Date Begin:	d2. Est Launch Date End:	h. Total Transponder Bandwidth (no. transponders x Bandwidth) 2480 MHz		l. Orbit Type: Mark all boxes that apply: <input checked="" type="checkbox"/> GSO <input type="checkbox"/> NGSO	

**S2. OPERATING FREQUENCY BANDS** Identify the frequency range and transmit/receive mode for all frequency bands in which this station will oper  
Also indicate the nature of service(s) for each frequency band.

Frequency Band Limits				e. T/R Mode	Nature of Service(s): List all that apply to this band	f.
Lower Frequency (.Hz)		Upper Frequency (.Hz)				
a. Numeric	b. Unit (K/M/G)	c. Numeric	d. Unit (K/M/G)			
5925	M	6425	M	R	Fixed Satellite Service	
3700	M	4200	M	T	Fixed Satellite Service	
14000	M	14500	M	R	Fixed Satellite Service	
10950	M	11200	M	T	Fixed Satellite Service	
11450	M	11700	M	T	Fixed Satellite Service	
12500	M	12750	M	T	Fixed Satellite Service	
11700	M	11950	M	T	Fixed Satellite Service	

**S3. ORBITAL INFORMATION FOR GEOSTATIONARY SATELLITES ONLY:**

a. Nominal Orbital Longitude (Degrees E/W): 29.5 W		b. Alternate Orbital Longitude (Degrees E/W):		c. Reason for orbital location selection: Replace the Intelsat 801 spacecraft and to provide service to Africa, Europe, Middle East, North America and South America			
Longitudinal Tolerance or E/W Station-Keeping:		f. Inclination Excursion or N/S Station-Keeping Tolerance:				Range of orbital are in which adequate service can be provided (Optional): Degrees      E/W	
d. Toward West:	0.05 Degrees	e. Toward East:				g. Westernmost: h. Easternmost:	
i. Reason for service are selection (Optional):		0.05 Degrees					

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S4. ORBITAL INFORMATION FOR NON-GEOSTATIONARY SATELLITES ONLY

S4a. Total Number of Satellites in Network or System:

S4c. Celestial Reference Body (Earth, Sun, Moon, etc.):

S4b. Total Number of Orbital Planes in Network or System:

S4d. Orbit Epoch Date:

For each Orbital Plane Provide:

(e) Orbital Plane No.	(f) No. of Satellites in Plane	(g) Inclination Angle (degrees)	(h) Orbital Period (Seconds)	(i) Apogee (km)	(j) Perigee (km)	(k) Right Ascension of the Ascending Node (Deg.)	(l) Argument of Perigee (Degrees)	Active Service Arc Range (Degrees)		
								(m) Begin Angle	(n) End Angle	(o) Other

S5. INITIAL SATELLITE PHASE ANGLE For each satellite in each orbital plane, provide the intital phase angle.

(a) Orbital Plane No.	(b) Satellite Number	(c) Initial Phase Angle (Degrees)

**NO NGSO DATA FILED**

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S6. SERVICE AREA CHARACTERISTICS for each service area provide:

(a) Service Area ID	(b) Type of Associated Station (Earth or Space)	(c) Service Area Diagram File Name (GXT File)	(d) Service Area Description. Provide list of geographic areas (state postal codes or ITU 3-ltr codes), satellites or Figure No. of Service Area Diagram.
9	S		South America, Europe, and Northern Africa
1	S		Global
2	S		North and South America
3	S		Europe and Africa
4	S		North America and Central America
5	S		Europe and Northern Africa
6	S		South America
7	S		Africa
8	S		North America, Central America, and Africa

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S7. SPACE STATION ANTENNA BEAM CHARACTERISTICS For each antenna beam provide:

(a) Beam ID	(b) T/R Mode	Isotropic Antenna Gain		(e) Pointing Error (Degrees)	(f) Rotational Error (Degrees)	(g) Min. Cross- Polar Iso- lation (dB)	(h) Polar- ization Switch- able? (Y/N)	(i) Polarization Alignment Rel. Equatorial Plane (Degrees)	(j) Service Area ID	Transmit			Receive			
										(k) Input Losses (dB)	(l) Effective Output Power (W)	(m) Max. EIRP (dBW)	(n) System Noise Temp (k)	(o) G/T Max. Gain Pt. (dB/K)	(p) Min. Saturation Flux Density (dBW/m2)	Input Attenuator (dB)
		(q) Max. Value	(r) Step Size													
GALU	R	20.3	17.3						1				-6.8	-93	14	1
GBR	R	20.3	17.3						1				-6.9	-93.2	14	1
WHL	R	25.9	19.9						2				-1.3	-93.2	14	1
EHLU	R	23.2	17.2						3				-3.8	-93.1	14	1
NWR	R	26.8	20.8						4				-0.5	-93	14	1
NER	R	27.6	21.6						5				0.8	-92.7	14	1
SWR	R	27.7	21.7						6				0.9	-92.7	14	1
SER	R	25.4	19.4						7				-1.9	-91.6	14	1
NSE	R	22.5	16.5						8				-4.8	-91.2	14	1
NSW	R	24.2	18.2						9				-2.6	-91.7	14	1
CALU	R	30.4	24.4						1				2.9	-95.9	14	1
CBR	R	30.4	24.4						1				3.2	-96.1	14	1
S1HU	R	36.9	32.9						01				9.1	-93.6	14	1
S2VU	R	34.8	30.8						901				7	-94.9	14	1
S2AU	R	32.9	28.9						901				5.1	-95	14	1
S3HU	R	37.7	33.7						01				9.4	-93.8	14	1
GAR	T	20.5	17.5						1			32.2				
GBLD	T	20.5	17.5						1			31.5				
WHR	T	26.9	20.9						2			38.8				
EHR	T	24.5	18.5						3			38				
NWL	T	28.5	22.5						4			38.9				
NELD	T	28.4	22.4						5			36.9				
SWL	T	30.6	24.6						6			39.1				
SELD	T	26.8	20.8						7			37.1				
CAR	T	27.8	21.8						1			39.3				
CBLD	T	28.3	22.3						1			39.3				
S1VD	T	36.3	32.3						901			51.4				
S2HD	T	34.7	30.7						01			49.7				
S2AD	T	32.9	28.9						01			47.9				

S3VD	T	37	33					90	1			51.6				
CML	R	-3.9	-6.5						1				-38.6	-109.4		
TGC	T	11.6	9						1			6.1				
TBCD	T	-1.27	-2.27						1			17.9				
BNC	T	13	10.4					90	1			13				
BNK	T	20.8	18.2						1			15.1				
BS1D	T	36.3	32.3					90	1			18.8				
BS2D	T	34.7	30.7					0	1			20				
BS3D	T	37	33					90	1			18.8				

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S8. ANTENNA BEAM DIAGRAMS For each beam pattern provide the reference to the graphic image and numerical data:  
 Also provide the power flux density levels in each beam that result from the emission with the highest power flux density.

(a) Beam ID	(b) T/R Mode	(c) Co-or Cross Polar Mode ("C" or" X")	(d) GSO Ref. Orbital Longitude (Deg. E/W)	(e) NGSO Antenna Gain Contour Description (Figure/Table/ Exhibit)	(f) GSO Antenna Gain Contour Data (GXT File)	Max. Power Flux Density (dBW/M2/Hz)				
						At Angle of Arrival above horizontal (for emission with highest PFD)				
						(g) 5 Deg	(h) 10 Deg	(i) 15 Deg	(j) 20 Deg	(k) 25 Deg
EHR	T	C	-29.5		ehrd.gxt	-155.3	-155.2	-155	-154.9	-154.8
NWL	T	C	-29.5		nwld.gxt	-154.4	-154.3	-154.1	-154	-153.9
NELD	T	C	-29.5		neld.gxt	-156.4	-156.3	-156.1	-156	-155.9
SWL	T	C	-29.5		swld.gxt	-154.2	-154.1	-153.9	-153.8	-153.7
SELD	T	C	-29.5		seld.gxt	-156.2	-156.1	-155.9	-155.8	-155.7
GAR	T	C	-29.5		gard.gxt	-161.1	-161	-160.8	-160.7	-160.6
GBLD	T	C	-29.5		gblld.gxt	-161.8	-161.7	-161.5	-161.4	-161.3
CAR	T	C	-29.5		card.gxt	-154	-153.9	-153.7	-153.6	-153.5
CBLD	T	C	-29.5		cblld.gxt	-154	-153.9	-153.7	-153.6	-153.5
S1VD	T	C	-29.5		s1vd.gxt	-150	-147.5	-145	-142.5	-141.4
S2HD	T	C	-29.5		s2hd.gxt	-150	-147.5	-145	-143.2	-143.1
S2AD	T	C	-29.5		s2ad.gxt	-150	-147.5	-145.1	-145	-144.9
S3VD	T	C	-29.5		s3vd.gxt	-150	-147.5	-145	-142.5	-141.2
TGC	T	C	-29.5		tgcd.gxt	-178.1	-178	-177.9	-177.8	-177.7
TBCD	T	C	-29.5		tbcd.gxt	-166.3	-166.2	-166.1	-166	-165.9
BNC	T	C	-29.5		bncd.gxt	-161.1	-161	-160.9	-160.8	-160.7
BNK	T	C	-29.5		bnkd.gxt	-156.1	-156	-155.9	-155.8	-155.7
BS1D	T	C	-29.5		bs1d.gxt	-152.4	-152.3	-152.2	-152.1	-152
BS2D	T	C	-29.5		bs2d.gxt	-151.2	-151.1	-151	-150.9	-150.8
BS3D	T	C	-29.5		bs3d.gxt	-152.4	-152.3	-152.2	-152.1	-152
WHL	R	C	-29.5		whlu.gxt					
WHR	T	C	-29.5		whrd.gxt	-163.2	-163.1	-163	-162.9	-162.8
EHLU	R	C	-29.5		ehlu.gxt					
NWR	R	C	-29.5		nwrn.gxt					
NER	R	C	-29.5		neru.gxt					
SWR	R	C	-29.5		swru.gxt					
SER	R	C	-29.5		seru.gxt					
NSE	R	C	-29.5		nseu.gxt					

NSW	R	C	-29.5		nswu.gxt					
GALU	R	C	-29.5		galu.gxt					
GBR	R	C	-29.5		gbru.gxt					
CALU	R	C	-29.5		calu.gxt					
CBR	R	C	-29.5		cbru.gxt					
S1HU	R	C	-29.5		s1hu.gxt					
S2VU	R	C	-29.5		s2vu.gxt					
S2AU	R	C	-29.5		s2au.gxt					
S3HU	R	C	-29.5		s3hu.gxt					
CML	R	C	-29.5		cmlu.gxt					

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S9. SPACE STATION CHANNELS For each frequency channel provide: S10. SPACE STATION TRANSPONDERS For each transponder provide:

(a) Channel No.	(B) Assigned Bandwidth (kHz)	(c) T/R Mode	(d) Center Frequency (MHz)	(e) Polarization (H, V, L, R)	(f) TTC or Comm Channel (T or C)
CU001	77000	R	5967.5	L	C
CU002	72000	R	6050	L	C
CU003	34000	R	6111	L	C
CU004	72000	R	6130	L	C
CU005	34000	R	6149	L	C
CU006	72000	R	6220	L	C
CU007	36000	R	6280	L	C
CU008	77000	R	5967.5	R	C
CU009	72000	R	6050	R	C
CU010	34000	R	6111	R	C
CU011	72000	R	6130	R	C
CU012	34000	R	6149	R	C
CU013	72000	R	6220	R	C
CU014	36000	R	6280	R	C
CU015	36000	R	6320	L	C
CU016	36000	R	6360	L	C
CU017	41000	R	6402.5	L	C
CU018	36000	R	6320	R	C
CU019	36000	R	6360	R	C
CU020	41000	R	6402.5	R	C
KU001	77000	R	14042.5	H	C
KU002	72000	R	14125	H	C
KU003	34000	R	14186	H	C
KU004	72000	R	14205	H	C
KU005	34000	R	14224	H	C
KU006	72000	R	14295	H	C
KU007	112000	R	14314	H	C
KU008	112000	R	14438	H	C
CMD1	1000	R	6173.7	L	T
CMD2	1000	R	6176.3	L	T

(a) Transponder ID	(b) Transponder Gain (dB)	Receive Band		Transmit Band	
		(c) Channel No.	(d) Beam ID	(e) Channel No.	(f) Beam ID
TC561	115.3	CU014	NSEU	CD007	WHRD
TC562	117	CU008	NSEU	CD001	EHRD
TC563	117	CU009	NSEU	CD002	EHRD
TC564	117	CU010	NSEU	CD003	EHRD
TC565	117	CU011	NSEU	CD004	EHRD
TC566	117	CU012	NSEU	CD005	EHRD
TC567	117	CU013	NSEU	CD006	EHRD
TC568	117	CU014	NSEU	CD007	EHRD
TC569	113.9	CU008	NSEU	CD008	NWLD
TC570	113.9	CU009	NSEU	CD009	NWLD
TC571	113.9	CU010	NSEU	CD010	NWLD
TC572	113.9	CU011	NSEU	CD011	NWLD
TC573	113.9	CU012	NSEU	CD012	NWLD
TC574	113.9	CU013	NSEU	CD013	NWLD
TC575	113.9	CU014	NSEU	CD014	NWLD
TC576	112	CU008	NSEU	CD008	NELD
TC577	112	CU009	NSEU	CD009	NELD
TC578	112	CU010	NSEU	CD010	NELD
TC579	112	CU011	NSEU	CD011	NELD
TC580	112	CU012	NSEU	CD012	NELD
TC581	112	CU013	NSEU	CD013	NELD
TC582	112	CU014	NSEU	CD014	NELD
TC583	111.9	CU008	NSEU	CD008	SWLD
TC584	111.9	CU009	NSEU	CD009	SWLD
TC585	111.9	CU010	NSEU	CD010	SWLD
TC586	111.9	CU011	NSEU	CD011	SWLD
TC587	111.9	CU012	NSEU	CD012	SWLD
TC588	111.9	CU013	NSEU	CD013	SWLD
TC589	111.9	CU014	NSEU	CD014	SWLD
TC590	113.7	CU008	NSEU	CD008	SELD



TM1	500	T	3947.5	R	T
TM2	500	T	3952.5	R	T
TM3	500	T	3948	R	T
TM4	500	T	3952	R	T
TM1B	500	T	3947.5	R	T
TM2B	500	T	3952.5	R	T
TM3B	500	T	3948	R	T
TM4B	500	T	3952	R	T
BC1	25	T	3950	V	T
BK1	25	T	11198	R	T
BK2	25	T	11452	R	T
BK3	25	T	11701	V	T
BK4	25	T	11701	V	T
BK5	25	T	12501	H	T
BK6	25	T	12501	V	T
KU009	77000	R	14042.5	V	C
KU010	72000	R	14125	V	C
KU011	34000	R	14186	V	C
KU012	72000	R	14205	V	C
KU013	34000	R	14224	V	C
KU014	72000	R	14295	V	C
KU015	112000	R	14314	V	C
KU016	112000	R	14438	V	C
CD001	77000	T	3742.5	R	T
CD002	72000	T	3825	R	T
CD003	34000	T	3886	R	T
CD004	72000	T	3905	R	T
CD005	34000	T	3924	R	T
CD006	72000	T	3995	R	T
CD007	36000	T	4055	R	T
CD008	77000	T	3742.5	L	T
CD009	72000	T	3825	L	T
CD010	34000	T	3886	L	T
CD011	72000	T	3905	L	T
CD012	34000	T	3924	L	T
CD013	72000	T	3995	L	T
CD014	36000	T	4055	L	T
KD001	77000	T	10992.5	V	T
KD002	72000	T	11075	V	T

TC591	113.7	CU009	NSEU	CD009	SELD
TC592	113.7	CU010	NSEU	CD010	SELD
TC593	113.7	CU011	NSEU	CD011	SELD
TC594	113.7	CU012	NSEU	CD012	SELD
TC595	113.7	CU013	NSEU	CD013	SELD
TC596	113.7	CU014	NSEU	CD014	SELD
TC597	118.6	CU008	NSEU	KD001	S1VD
TC598	118.6	CU009	NSEU	KD002	S1VD
TC599	118.6	CU010	NSEU	KD003	S1VD
TC600	118.6	CU011	NSEU	KD004	S1VD
TC601	118.6	CU012	NSEU	KD005	S1VD
TC602	118.6	CU013	NSEU	KD006	S1VD
TC603	118.3	CU008	NSEU	KD007	S1VD
TC604	118.3	CU009	NSEU	KD008	S1VD
TC605	118.3	CU010	NSEU	KD009	S1VD
TC606	118.3	CU011	NSEU	KD010	S1VD
TC607	118.3	CU012	NSEU	KD011	S1VD
TC608	118.6	CU008	NSEU	KD012	S2HD
TC609	118.6	CU009	NSEU	KD013	S2HD
TC610	118.6	CU010	NSEU	KD014	S2HD
TC611	118.6	CU011	NSEU	KD015	S2HD
TC612	118.6	CU012	NSEU	KD016	S2HD
TC613	118.6	CU013	NSEU	KD017	S2HD
TC614	118.3	CU008	NSEU	KD018	S2HD
TC615	118.3	CU009	NSEU	KD019	S2HD
TC616	118.3	CU010	NSEU	KD020	S2HD
TC617	118.3	CU011	NSEU	KD021	S2HD
TC618	118.3	CU012	NSEU	KD022	S2HD
TC619	118.6	CU008	NSEU	KD012	S2AD
TC620	118.6	CU009	NSEU	KD013	S2AD
TC621	118.6	CU010	NSEU	KD014	S2AD
TC622	118.6	CU011	NSEU	KD015	S2AD
TC623	118.6	CU012	NSEU	KD016	S2AD
TC624	118.6	CU013	NSEU	KD017	S2AD
TC625	118.3	CU008	NSEU	KD018	S2AD
TC626	118.3	CU009	NSEU	KD019	S2AD
TC627	118.3	CU010	NSEU	KD020	S2AD
TC628	118.3	CU011	NSEU	KD021	S2AD
TC629	118.3	CU012	NSEU	KD022	S2AD

KD003	34000	T	11136	V	T
KD004	72000	T	11155	V	T
KD005	34000	T	11174	V	T
KD006	72000	T	11495	V	T
KD007	77000	T	11747.5	V	T
KD008	72000	T	11830	V	T
KD009	34000	T	11891	V	T
KD010	72000	T	11910	V	T
KD011	34000	T	11929	V	T
KD012	77000	T	10992.5	H	T
KD013	72000	T	11075	H	T
KD014	34000	T	11136	H	T
KD015	72000	T	11155	H	T
KD016	34000	T	11174	H	T
KD017	72000	T	11495	H	T
KD018	77000	T	12547.5	H	T
KD019	72000	T	12630	H	T
KD020	34000	T	12691	H	T
KD021	72000	T	12710	H	T
KD022	34000	T	12729	H	T
KD023	77000	T	12547.5	V	T
KD024	72000	T	12630	V	T
KD025	34000	T	12691	V	T
KD026	72000	T	12710	V	T
KD027	34000	T	12729	V	T
CD015	36000	T	4095	R	T
CD016	36000	T	4135	R	T
CD017	41000	T	4177.5	R	T
CD018	36000	T	4095	L	T
CD019	36000	T	4135	L	T
CD020	41000	T	4177.5	L	T
KD028	112000	T	11514	V	T
KD029	112000	T	11638	V	T
KD030	112000	T	11514	H	T
KD031	112000	T	11638	H	T

TC630	118	CU008	NSEU	KD001	S3VD
TC631	118	CU009	NSEU	KD002	S3VD
TC632	118	CU010	NSEU	KD003	S3VD
TC633	118	CU011	NSEU	KD004	S3VD
TC634	118	CU012	NSEU	KD005	S3VD
TC635	118	CU013	NSEU	KD006	S3VD
TC636	118.1	CU008	NSEU	KD007	S3VD
TC637	118.1	CU009	NSEU	KD008	S3VD
TC638	118.1	CU010	NSEU	KD009	S3VD
TC639	118.1	CU011	NSEU	KD010	S3VD
TC640	118.1	CU012	NSEU	KD011	S3VD
TC641	118	CU008	NSEU	KD023	S3VD
TC642	118	CU009	NSEU	KD024	S3VD
TC643	118	CU010	NSEU	KD025	S3VD
TC644	118	CU011	NSEU	KD026	S3VD
TC645	118	CU012	NSEU	KD027	S3VD
TC646	114.2	CU008	NSWU	CD001	WHRD
TC647	114.2	CU009	NSWU	CD002	WHRD
TC648	114.2	CU010	NSWU	CD003	WHRD
TC649	114.2	CU011	NSWU	CD004	WHRD
TC650	114.2	CU012	NSWU	CD005	WHRD
TC651	114.2	CU013	NSWU	CD006	WHRD
TC652	114.2	CU014	NSWU	CD007	WHRD
TC653	115.8	CU008	NSWU	CD001	EHRD
TC654	115.8	CU009	NSWU	CD002	EHRD
TC655	115.8	CU010	NSWU	CD003	EHRD
TC656	115.8	CU011	NSWU	CD004	EHRD
TC657	115.8	CU012	NSWU	CD005	EHRD
TC658	115.8	CU013	NSWU	CD006	EHRD
TC659	115.8	CU014	NSWU	CD007	EHRD
TC660	112.7	CU008	NSWU	CD008	NWLD
TC661	112.7	CU009	NSWU	CD009	NWLD
TC662	112.7	CU010	NSWU	CD010	NWLD
TC663	112.7	CU011	NSWU	CD011	NWLD
TC664	112.7	CU012	NSWU	CD012	NWLD
TC665	112.7	CU013	NSWU	CD013	NWLD
TC666	112.7	CU014	NSWU	CD014	NWLD
TC667	110.9	CU008	NSWU	CD008	NELD
TC668	110.9	CU009	NSWU	CD009	NELD

TC669	110.9	CU010	NSWU	CD010	NELD
TC670	110.9	CU011	NSWU	CD011	NELD
TC671	110.9	CU012	NSWU	CD012	NELD
TC672	110.9	CU013	NSWU	CD013	NELD
TC673	110.9	CU014	NSWU	CD014	NELD
TC674	110.7	CU008	NSWU	CD008	SWLD
TC675	110.7	CU009	NSWU	CD009	SWLD
TC676	110.7	CU010	NSWU	CD010	SWLD
TC677	110.7	CU011	NSWU	CD011	SWLD
TC678	110.7	CU012	NSWU	CD012	SWLD
TC679	110.7	CU013	NSWU	CD013	SWLD
TC680	110.7	CU014	NSWU	CD014	SWLD
TC001	116.4	CU001	WHLU	CD001	WHRD
TC002	116.4	CU002	WHLU	CD002	WHRD
TC003	116.4	CU003	WHLU	CD003	WHRD
TC004	116.4	CU004	WHLU	CD004	WHRD
TC005	116.4	CU005	WHLU	CD005	WHRD
TC006	116.4	CU006	WHLU	CD006	WHRD
TC007	116.4	CU007	WHLU	CD007	WHRD
TC008	118.1	CU001	WHLU	CD001	EHRD
TC009	118.1	CU002	WHLU	CD002	EHRD
TC010	118.1	CU003	WHLU	CD003	EHRD
TC011	118.1	CU004	WHLU	CD004	EHRD
TC012	118.1	CU005	WHLU	CD005	EHRD
TC013	118.1	CU006	WHLU	CD006	EHRD
TC014	118.1	CU007	WHLU	CD007	EHRD
TC015	115	CU001	WHLU	CD008	NWLD
TC016	115	CU002	WHLU	CD009	NWLD
TC017	115	CU003	WHLU	CD010	NWLD
TC018	115	CU004	WHLU	CD011	NWLD
TC019	115	CU005	WHLU	CD012	NWLD
TC020	115	CU006	WHLU	CD013	NWLD
TC021	115	CU007	WHLU	CD014	NWLD
TC022	113.1	CU001	WHLU	CD008	NELD
TC023	113.1	CU002	WHLU	CD009	NELD
TC024	113.1	CU003	WHLU	CD010	NELD
TC025	113.1	CU004	WHLU	CD011	NELD
TC026	113.1	CU005	WHLU	CD012	NELD
TC027	113.1	CU006	WHLU	CD013	NELD

TC028	113.1	CU007	WHLU	CD014	NELD
TC029	113	CU001	WHLU	CD008	SWLD
TC030	113	CU002	WHLU	CD009	SWLD
TC031	113	CU003	WHLU	CD010	SWLD
TC032	113	CU004	WHLU	CD011	SWLD
TC033	113	CU005	WHLU	CD012	SWLD
TC034	113	CU006	WHLU	CD013	SWLD
TC035	113	CU007	WHLU	CD014	SWLD
TC036	114.8	CU001	WHLU	CD008	SELD
TC037	114.8	CU002	WHLU	CD009	SELD
TC038	114.8	CU003	WHLU	CD010	SELD
TC039	114.8	CU004	WHLU	CD011	SELD
TC040	114.8	CU005	WHLU	CD012	SELD
TC041	114.8	CU006	WHLU	CD013	SELD
TC042	114.8	CU007	WHLU	CD014	SELD
TC043	116.2	CU007	WHLU	CD007	GARD
TC044	115.6	CU007	WHLU	CD014	GBLD
TC045	116	CU007	WHLU	CD007	CARD
TC046	115.6	CU007	WHLU	CD014	CBLD
TC047	119.7	CU001	WHLU	KD001	S1VD
TC048	119.7	CU002	WHLU	KD002	S1VD
TC049	119.7	CU003	WHLU	KD003	S1VD
TC050	119.7	CU004	WHLU	KD004	S1VD
TC051	119.7	CU005	WHLU	KD005	S1VD
TC052	119.7	CU006	WHLU	KD006	S1VD
TC053	119.4	CU001	WHLU	KD007	S1VD
TC054	119.4	CU002	WHLU	KD008	S1VD
TC055	119.4	CU003	WHLU	KD009	S1VD
TC056	119.4	CU004	WHLU	KD010	S1VD
TC057	119.4	CU005	WHLU	KD011	S1VD
TC058	119.7	CU001	WHLU	KD012	S2HD
TC059	119.7	CU002	WHLU	KD013	S2HD
TC060	119.7	CU003	WHLU	KD014	S2HD
TC061	119.7	CU004	WHLU	KD015	S2HD
TC062	119.7	CU005	WHLU	KD016	S2HD
TC063	119.7	CU006	WHLU	KD017	S2HD
TC064	119.4	CU001	WHLU	KD018	S2HD
TC065	119.4	CU002	WHLU	KD019	S2HD
TC066	119.4	CU003	WHLU	KD020	S2HD

TC067	119.4	CU004	WHLU	KD021	S2HD
TC068	119.4	CU005	WHLU	KD022	S2HD
TC069	119.7	CU001	WHLU	KD012	S2AD
TC070	119.7	CU002	WHLU	KD013	S2AD
TC071	119.7	CU003	WHLU	KD014	S2AD
TC072	119.7	CU004	WHLU	KD015	S2AD
TC073	119.7	CU005	WHLU	KD016	S2AD
TC074	119.7	CU006	WHLU	KD017	S2AD
TC075	119.4	CU001	WHLU	KD018	S2AD
TC076	119.4	CU002	WHLU	KD019	S2AD
TC077	119.4	CU003	WHLU	KD020	S2AD
TC078	119.4	CU004	WHLU	KD021	S2AD
TC079	119.4	CU005	WHLU	KD022	S2AD
TC080	119.1	CU001	WHLU	KD001	S3VD
TC081	119.1	CU002	WHLU	KD002	S3VD
TC082	119.1	CU003	WHLU	KD003	S3VD
TC083	119.1	CU004	WHLU	KD004	S3VD
TC084	119.1	CU005	WHLU	KD005	S3VD
TC085	119.1	CU006	WHLU	KD006	S3VD
TC086	119.2	CU001	WHLU	KD007	S3VD
TC087	119.2	CU002	WHLU	KD008	S3VD
TC088	119.2	CU003	WHLU	KD009	S3VD
TC089	119.2	CU004	WHLU	KD010	S3VD
TC090	119.2	CU005	WHLU	KD011	S3VD
TC091	119.1	CU001	WHLU	KD023	S3VD
TC092	119.1	CU002	WHLU	KD024	S3VD
TC093	119.1	CU003	WHLU	KD025	S3VD
TC094	119.1	CU004	WHLU	KD026	S3VD
TC095	119.1	CU005	WHLU	KD027	S3VD
TC096	119.1	CU001	EHLU	CD001	WHRD
TC097	119.1	CU002	EHLU	CD002	WHRD
TC098	119.1	CU003	EHLU	CD003	WHRD
TC099	119.1	CU004	EHLU	CD004	WHRD
TC100	119.1	CU005	EHLU	CD005	WHRD
TC101	119.1	CU006	EHLU	CD006	WHRD
TC102	119.1	CU007	EHLU	CD007	WHRD
TC103	120.7	CU001	EHLU	CD001	EHRD
TC104	120.7	CU002	EHLU	CD002	EHRD
TC105	120.7	CU003	EHLU	CD003	EHRD

TC106	120.7	CU004	EHLU	CD004	EHRD
TC107	120.7	CU005	EHLU	CD005	EHRD
TC108	120.7	CU006	EHLU	CD006	EHRD
TC109	120.7	CU007	EHLU	CD007	EHRD
TC110	117.6	CU001	EHLU	CD008	NWLD
TC111	117.6	CU002	EHLU	CD009	NWLD
TC112	117.6	CU003	EHLU	CD010	NWLD
TC113	117.6	CU004	EHLU	CD011	NWLD
TC114	117.6	CU005	EHLU	CD012	NWLD
TC115	117.6	CU006	EHLU	CD013	NWLD
TC116	117.6	CU007	EHLU	CD014	NWLD
TC117	115.8	CU001	EHLU	CD008	NELD
TC118	115.8	CU002	EHLU	CD009	NELD
TC119	115.8	CU003	EHLU	CD010	NELD
TC120	115.8	CU004	EHLU	CD011	NELD
TC121	115.8	CU005	EHLU	CD012	NELD
TC122	115.8	CU006	EHLU	CD013	NELD
TC123	115.8	CU007	EHLU	CD014	NELD
TC124	115.6	CU001	EHLU	CD008	SWLD
TC125	115.6	CU002	EHLU	CD009	SWLD
TC126	115.6	CU003	EHLU	CD010	SWLD
TC127	115.6	CU004	EHLU	CD011	SWLD
TC128	115.6	CU005	EHLU	CD012	SWLD
TC129	115.6	CU006	EHLU	CD013	SWLD
TC130	115.6	CU007	EHLU	CD014	SWLD
TC131	117.5	CU001	EHLU	CD008	SELD
TC132	117.5	CU002	EHLU	CD009	SELD
TC133	117.5	CU003	EHLU	CD010	SELD
TC134	117.5	CU004	EHLU	CD011	SELD
TC135	117.5	CU005	EHLU	CD012	SELD
TC136	117.5	CU006	EHLU	CD013	SELD
TC137	117.5	CU007	EHLU	CD014	SELD
TC138	118.9	CU007	EHLU	CD007	GARD
TC139	118.3	CU007	EHLU	CD014	GBLD
TC140	118.7	CU007	EHLU	CD007	CARD
TC141	118.2	CU007	EHLU	CD014	CBLD
TC142	122.4	CU001	EHLU	KD001	S1VD
TC143	122.4	CU002	EHLU	KD002	S1VD
TC144	122.4	CU003	EHLU	KD003	S1VD

TC145	122.4	CU004	EHLU	KD004	S1VD
TC146	122.4	CU005	EHLU	KD005	S1VD
TC147	122.4	CU006	EHLU	KD006	S1VD
TC148	122.1	CU001	EHLU	KD007	S1VD
TC149	122.1	CU002	EHLU	KD008	S1VD
TC150	122.1	CU003	EHLU	KD009	S1VD
TC151	122.1	CU004	EHLU	KD010	S1VD
TC152	122.1	CU005	EHLU	KD011	S1VD
TC153	122.4	CU001	EHLU	KD012	S2HD
TC154	122.4	CU002	EHLU	KD013	S2HD
TC155	122.4	CU003	EHLU	KD014	S2HD
TC156	122.4	CU004	EHLU	KD015	S2HD
TC157	122.4	CU005	EHLU	KD016	S2HD
TC158	122.4	CU006	EHLU	KD017	S2HD
TC159	122.1	CU001	EHLU	KD018	S2HD
TC160	122.1	CU002	EHLU	KD019	S2HD
TC161	122.1	CU003	EHLU	KD020	S2HD
TC162	122.1	CU004	EHLU	KD021	S2HD
TC163	122.1	CU005	EHLU	KD022	S2HD
TC164	122.4	CU001	EHLU	KD012	S2AD
TC165	122.4	CU002	EHLU	KD013	S2AD
TC166	122.4	CU003	EHLU	KD014	S2AD
TC167	122.4	CU004	EHLU	KD015	S2AD
TC168	122.4	CU005	EHLU	KD016	S2AD
TC169	122.4	CU006	EHLU	KD017	S2AD
TC170	122.1	CU001	EHLU	KD018	S2AD
TC171	122.1	CU002	EHLU	KD019	S2AD
TC172	122.1	CU003	EHLU	KD020	S2AD
TC173	122.1	CU004	EHLU	KD021	S2AD
TC174	122.1	CU005	EHLU	KD022	S2AD
TC175	121.7	CU001	EHLU	KD001	S3VD
TC176	121.7	CU002	EHLU	KD002	S3VD
TC177	121.7	CU003	EHLU	KD003	S3VD
TC178	121.7	CU004	EHLU	KD004	S3VD
TC179	121.7	CU005	EHLU	KD005	S3VD
TC180	121.7	CU006	EHLU	KD006	S3VD
TC181	121.9	CU001	EHLU	KD007	S3VD
TC182	121.9	CU002	EHLU	KD008	S3VD
TC183	121.9	CU003	EHLU	KD009	S3VD

TC184	121.9	CU004	EHLU	KD010	S3VD
TC185	121.9	CU005	EHLU	KD011	S3VD
TC186	121.8	CU001	EHLU	KD023	S3VD
TC187	121.8	CU002	EHLU	KD024	S3VD
TC188	121.8	CU003	EHLU	KD025	S3VD
TC189	121.8	CU004	EHLU	KD026	S3VD
TC190	121.8	CU005	EHLU	KD027	S3VD
TC191	115.3	CU008	NWRU	CD001	WHRD
TC192	115.3	CU009	NWRU	CD002	WHRD
TC193	115.3	CU010	NWRU	CD003	WHRD
TC194	115.3	CU011	NWRU	CD004	WHRD
TC195	115.3	CU012	NWRU	CD005	WHRD
TC196	115.3	CU013	NWRU	CD006	WHRD
TC197	115.3	CU014	NWRU	CD007	WHRD
TC198	117	CU008	NWRU	CD001	EHRD
TC199	117	CU009	NWRU	CD002	EHRD
TC200	117	CU010	NWRU	CD003	EHRD
TC201	117	CU011	NWRU	CD004	EHRD
TC202	117	CU012	NWRU	CD005	EHRD
TC203	117	CU013	NWRU	CD006	EHRD
TC204	117	CU014	NWRU	CD007	EHRD
TC205	113.9	CU008	NWRU	CD008	NWLD
TC206	113.9	CU009	NWRU	CD009	NWLD
TC207	113.9	CU010	NWRU	CD010	NWLD
TC208	113.9	CU011	NWRU	CD011	NWLD
TC209	113.9	CU012	NWRU	CD012	NWLD
TC210	113.9	CU013	NWRU	CD013	NWLD
TC211	113.9	CU014	NWRU	CD014	NWLD
TC212	112	CU008	NWRU	CD008	NELD
TC213	112	CU009	NWRU	CD009	NELD
TC214	112	CU010	NWRU	CD010	NELD
TC215	112	CU011	NWRU	CD011	NELD
TC216	112	CU012	NWRU	CD012	NELD
TC217	112	CU013	NWRU	CD013	NELD
TC218	112	CU014	NWRU	CD014	NELD
TC219	111.9	CU008	NWRU	CD008	SWLD
TC220	111.9	CU009	NWRU	CD009	SWLD
TC221	111.9	CU010	NWRU	CD010	SWLD
TC222	111.9	CU011	NWRU	CD011	SWLD



TC223	111.9	CU012	NWRU	CD012	SWLD
TC224	111.9	CU013	NWRU	CD013	SWLD
TC225	111.9	CU014	NWRU	CD014	SWLD
TC226	113.7	CU008	NWRU	CD008	SELD
TC227	113.7	CU009	NWRU	CD009	SELD
TC228	113.7	CU010	NWRU	CD010	SELD
TC229	113.7	CU011	NWRU	CD011	SELD
TC230	113.7	CU012	NWRU	CD012	SELD
TC231	113.7	CU013	NWRU	CD013	SELD
TC232	113.7	CU014	NWRU	CD014	SELD
TC233	118.6	CU008	NWRU	KD001	S1VD
TC234	118.6	CU009	NWRU	KD002	S1VD
TC235	118.6	CU010	NWRU	KD003	S1VD
TC236	118.6	CU011	NWRU	KD004	S1VD
TC237	118.6	CU012	NWRU	KD005	S1VD
TC238	118.6	CU013	NWRU	KD006	S1VD
TC239	118.3	CU008	NWRU	KD007	S1VD
TC240	118.3	CU009	NWRU	KD008	S1VD
TC241	118.3	CU010	NWRU	KD009	S1VD
TC242	118.3	CU011	NWRU	KD010	S1VD
TC243	118.3	CU012	NWRU	KD011	S1VD
TC244	118.6	CU008	NWRU	KD012	S2HD
TC245	118.6	CU009	NWRU	KD013	S2HD
TC246	118.6	CU010	NWRU	KD014	S2HD
TC247	118.6	CU011	NWRU	KD015	S2HD
TC248	118.6	CU012	NWRU	KD016	S2HD
TC249	118.6	CU013	NWRU	KD017	S2HD
TC250	118.3	CU008	NWRU	KD018	S2HD
TC251	118.3	CU009	NWRU	KD019	S2HD
TC252	118.3	CU010	NWRU	KD020	S2HD
TC253	118.3	CU011	NWRU	KD021	S2HD
TC254	118.3	CU012	NWRU	KD022	S2HD
TC255	118.6	CU008	NWRU	KD012	S2AD
TC256	118.6	CU009	NWRU	KD013	S2AD
TC257	118.6	CU010	NWRU	KD014	S2AD
TC258	118.6	CU011	NWRU	KD015	S2AD
TC259	118.6	CU012	NWRU	KD016	S2AD
TC260	118.6	CU013	NWRU	KD017	S2AD
TC261	118.3	CU008	NWRU	KD018	S2AD

TC262	118.3	CU009	NWRU	KD019	S2AD
TC263	118.3	CU010	NWRU	KD020	S2AD
TC264	118.3	CU011	NWRU	KD021	S2AD
TC265	118.3	CU012	NWRU	KD022	S2AD
TC266	118	CU008	NWRU	KD001	S3VD
TC267	118	CU009	NWRU	KD002	S3VD
TC268	118	CU010	NWRU	KD003	S3VD
TC269	118	CU011	NWRU	KD004	S3VD
TC270	118	CU012	NWRU	KD005	S3VD
TC271	118	CU013	NWRU	KD006	S3VD
TC272	118.1	CU008	NWRU	KD007	S3VD
TC273	118.1	CU009	NWRU	KD008	S3VD
TC274	118.1	CU010	NWRU	KD009	S3VD
TC275	118.1	CU011	NWRU	KD010	S3VD
TC276	118.1	CU012	NWRU	KD011	S3VD
TC277	118	CU008	NWRU	KD023	S3VD
TC278	118	CU009	NWRU	KD024	S3VD
TC279	118	CU010	NWRU	KD025	S3VD
TC280	118	CU011	NWRU	KD026	S3VD
TC281	118	CU012	NWRU	KD027	S3VD
TC282	114.2	CU008	NERU	CD001	WHRD
TC283	114.2	CU009	NERU	CD002	WHRD
TC284	114.2	CU010	NERU	CD003	WHRD
TC285	114.2	CU011	NERU	CD004	WHRD
TC286	114.2	CU012	NERU	CD005	WHRD
TC287	114.2	CU013	NERU	CD006	WHRD
TC288	114.2	CU014	NERU	CD007	WHRD
TC289	115.8	CU008	NERU	CD001	EHRD
TC290	115.8	CU009	NERU	CD002	EHRD
TC291	115.8	CU010	NERU	CD003	EHRD
TC292	115.8	CU011	NERU	CD004	EHRD
TC293	115.8	CU012	NERU	CD005	EHRD
TC294	115.8	CU013	NERU	CD006	EHRD
TC295	115.8	CU014	NERU	CD007	EHRD
TC296	112.7	CU008	NERU	CD008	NWLD
TC297	112.7	CU009	NERU	CD009	NWLD
TC298	112.7	CU010	NERU	CD010	NWLD
TC299	112.7	CU011	NERU	CD011	NWLD
TC300	112.7	CU012	NERU	CD012	NWLD

TC301	112.7	CU013	NERU	CD013	NWLD
TC302	112.7	CU014	NERU	CD014	NWLD
TC303	110.9	CU008	NERU	CD008	NELD
TC304	110.9	CU009	NERU	CD009	NELD
TC305	110.9	CU010	NERU	CD010	NELD
TC306	110.9	CU011	NERU	CD011	NELD
TC307	110.9	CU012	NERU	CD012	NELD
TC308	110.9	CU013	NERU	CD013	NELD
TC309	110.9	CU014	NERU	CD014	NELD
TC310	110.7	CU008	NERU	CD008	SWLD
TC311	110.7	CU009	NERU	CD009	SWLD
TC312	110.7	CU010	NERU	CD010	SWLD
TC313	110.7	CU011	NERU	CD011	SWLD
TC314	110.7	CU012	NERU	CD012	SWLD
TC315	110.7	CU013	NERU	CD013	SWLD
TC316	110.7	CU014	NERU	CD014	SWLD
TC317	112.6	CU008	NERU	CD008	SELD
TC318	112.6	CU009	NERU	CD009	SELD
TC319	112.6	CU010	NERU	CD010	SELD
TC320	112.6	CU011	NERU	CD011	SELD
TC321	112.6	CU012	NERU	CD012	SELD
TC322	112.6	CU013	NERU	CD013	SELD
TC323	112.6	CU014	NERU	CD014	SELD
TC324	117.5	CU008	NERU	KD001	S1VD
TC325	117.5	CU009	NERU	KD002	S1VD
TC326	117.5	CU010	NERU	KD003	S1VD
TC327	117.5	CU011	NERU	KD004	S1VD
TC328	117.5	CU012	NERU	KD005	S1VD
TC329	117.5	CU013	NERU	KD006	S1VD
TC330	117.2	CU008	NERU	KD007	S1VD
TC331	117.2	CU009	NERU	KD008	S1VD
TC332	117.2	CU010	NERU	KD009	S1VD
TC333	117.2	CU011	NERU	KD010	S1VD
TC334	117.2	CU012	NERU	KD011	S1VD
TC335	117.5	CU008	NERU	KD012	S2HD
TC336	117.5	CU009	NERU	KD013	S2HD
TC337	117.5	CU010	NERU	KD014	S2HD
TC338	117.5	CU011	NERU	KD015	S2HD
TC339	117.5	CU012	NERU	KD016	S2HD

TC340	117.5	CU013	NERU	KD017	S2HD
TC341	117.2	CU008	NERU	KD018	S2HD
TC342	117.2	CU009	NERU	KD019	S2HD
TC343	117.2	CU010	NERU	KD020	S2HD
TC344	117.2	CU011	NERU	KD021	S2HD
TC345	117.2	CU012	NERU	KD022	S2HD
TC346	117.5	CU008	NERU	KD012	S2AD
TC347	117.5	CU009	NERU	KD013	S2AD
TC348	117.5	CU010	NERU	KD014	S2AD
TC349	117.5	CU011	NERU	KD015	S2AD
TC350	117.5	CU012	NERU	KD016	S2AD
TC351	117.5	CU013	NERU	KD017	S2AD
TC352	117.2	CU008	NERU	KD018	S2AD
TC353	117.2	CU009	NERU	KD019	S2AD
TC354	117.2	CU010	NERU	KD020	S2AD
TC355	117.2	CU011	NERU	KD021	S2AD
TC356	117.2	CU012	NERU	KD022	S2AD
TC357	116.8	CU008	NERU	KD001	S3VD
TC358	116.8	CU009	NERU	KD002	S3VD
TC359	116.8	CU010	NERU	KD003	S3VD
TC360	116.8	CU011	NERU	KD004	S3VD
TC361	116.8	CU012	NERU	KD005	S3VD
TC362	116.8	CU013	NERU	KD006	S3VD
TC363	117	CU008	NERU	KD007	S3VD
TC364	117	CU009	NERU	KD008	S3VD
TC365	117	CU010	NERU	KD009	S3VD
TC366	117	CU011	NERU	KD010	S3VD
TC367	117	CU012	NERU	KD011	S3VD
TC368	116.9	CU008	NERU	KD023	S3VD
TC369	116.9	CU009	NERU	KD024	S3VD
TC370	116.9	CU010	NERU	KD025	S3VD
TC371	116.9	CU011	NERU	KD026	S3VD
TC372	116.9	CU012	NERU	KD027	S3VD
TC373	114.2	CU008	SWRU	CD001	WHRD
TC374	114.2	CU009	SWRU	CD002	WHRD
TC375	114.2	CU010	SWRU	CD003	WHRD
TC376	114.2	CU011	SWRU	CD004	WHRD
TC377	114.2	CU012	SWRU	CD005	WHRD
TC378	114.2	CU013	SWRU	CD006	WHRD

TC379	114.2	CU014	SWRU	CD007	WHRD
TC380	115.8	CU008	SWRU	CD001	EHRD
TC381	115.8	CU009	SWRU	CD002	EHRD
TC382	115.8	CU010	SWRU	CD003	EHRD
TC383	115.8	CU011	SWRU	CD004	EHRD
TC384	115.8	CU012	SWRU	CD005	EHRD
TC385	115.8	CU013	SWRU	CD006	EHRD
TC386	115.8	CU014	SWRU	CD007	EHRD
TC387	112.7	CU008	SWRU	CD008	NWLD
TC388	112.7	CU009	SWRU	CD009	NWLD
TC389	112.7	CU010	SWRU	CD010	NWLD
TC390	112.7	CU011	SWRU	CD011	NWLD
TC391	112.7	CU012	SWRU	CD012	NWLD
TC392	112.7	CU013	SWRU	CD013	NWLD
TC393	112.7	CU014	SWRU	CD014	NWLD
TC394	110.9	CU008	SWRU	CD008	NELD
TC395	110.9	CU009	SWRU	CD009	NELD
TC396	110.9	CU010	SWRU	CD010	NELD
TC397	110.9	CU011	SWRU	CD011	NELD
TC398	110.9	CU012	SWRU	CD012	NELD
TC399	110.9	CU013	SWRU	CD013	NELD
TC400	110.9	CU014	SWRU	CD014	NELD
TC401	110.7	CU008	SWRU	CD008	SWLD
TC402	110.7	CU009	SWRU	CD009	SWLD
TC403	110.7	CU010	SWRU	CD010	SWLD
TC404	110.7	CU011	SWRU	CD011	SWLD
TC405	110.7	CU012	SWRU	CD012	SWLD
TC406	110.7	CU013	SWRU	CD013	SWLD
TC407	110.7	CU014	SWRU	CD014	SWLD
TC408	112.6	CU008	SWRU	CD008	SELD
TC409	112.6	CU009	SWRU	CD009	SELD
TC410	112.6	CU010	SWRU	CD010	SELD
TC411	112.6	CU011	SWRU	CD011	SELD
TC412	112.6	CU012	SWRU	CD012	SELD
TC413	112.6	CU013	SWRU	CD013	SELD
TC414	112.6	CU014	SWRU	CD014	SELD
TC415	117.5	CU008	SWRU	KD001	S1VD
TC416	117.5	CU009	SWRU	KD002	S1VD
TC417	117.5	CU010	SWRU	KD003	S1VD

TC418	117.5	CU011	SWRU	KD004	S1VD
TC419	117.5	CU012	SWRU	KD005	S1VD
TC420	117.5	CU013	SWRU	KD006	S1VD
TC421	117.2	CU008	SWRU	KD007	S1VD
TC422	117.2	CU009	SWRU	KD008	S1VD
TC423	117.2	CU010	SWRU	KD009	S1VD
TC424	117.2	CU011	SWRU	KD010	S1VD
TC425	117.2	CU012	SWRU	KD011	S1VD
TC426	117.5	CU008	SWRU	KD012	S2HD
TC427	117.5	CU009	SWRU	KD013	S2HD
TC428	117.5	CU010	SWRU	KD014	S2HD
TC429	117.5	CU011	SWRU	KD015	S2HD
TC430	117.5	CU012	SWRU	KD016	S2HD
TC431	117.5	CU013	SWRU	KD017	S2HD
TC432	117.2	CU008	SWRU	KD018	S2HD
TC433	117.2	CU009	SWRU	KD019	S2HD
TC434	117.2	CU010	SWRU	KD020	S2HD
TC435	117.2	CU011	SWRU	KD021	S2HD
TC436	117.2	CU012	SWRU	KD022	S2HD
TC437	117.5	CU008	SWRU	KD012	S2AD
TC438	117.5	CU009	SWRU	KD013	S2AD
TC439	117.5	CU010	SWRU	KD014	S2AD
TC440	117.5	CU011	SWRU	KD015	S2AD
TC441	117.5	CU012	SWRU	KD016	S2AD
TC442	117.5	CU013	SWRU	KD017	S2AD
TC443	117.2	CU008	SWRU	KD018	S2AD
TC444	117.2	CU009	SWRU	KD019	S2AD
TC445	117.2	CU010	SWRU	KD020	S2AD
TC446	117.2	CU011	SWRU	KD021	S2AD
TC447	117.2	CU012	SWRU	KD022	S2AD
TC448	116.8	CU008	SWRU	KD001	S3VD
TC449	116.8	CU009	SWRU	KD002	S3VD
TC450	116.8	CU010	SWRU	KD003	S3VD
TC451	116.8	CU011	SWRU	KD004	S3VD
TC452	116.8	CU012	SWRU	KD005	S3VD
TC453	116.8	CU013	SWRU	KD006	S3VD
TC454	117	CU008	SWRU	KD007	S3VD
TC455	117	CU009	SWRU	KD008	S3VD
TC456	117	CU010	SWRU	KD009	S3VD

TC457	117	CU011	SWRU	KD010	S3VD
TC458	117	CU012	SWRU	KD011	S3VD
TC459	116.9	CU008	SWRU	KD023	S3VD
TC460	116.9	CU009	SWRU	KD024	S3VD
TC461	116.9	CU010	SWRU	KD025	S3VD
TC462	116.9	CU011	SWRU	KD026	S3VD
TC463	116.9	CU012	SWRU	KD027	S3VD
TC464	115.3	CU008	SERU	CD001	WHRD
TC465	115.3	CU009	SERU	CD002	WHRD
TC466	115.3	CU010	SERU	CD003	WHRD
TC467	115.3	CU011	SERU	CD004	WHRD
TC468	115.3	CU012	SERU	CD005	WHRD
TC469	115.3	CU013	SERU	CD006	WHRD
TC470	115.3	CU014	SERU	CD007	WHRD
TC471	117	CU008	SERU	CD001	EHRD
TC472	117	CU009	SERU	CD002	EHRD
TC473	117	CU010	SERU	CD003	EHRD
TC474	117	CU011	SERU	CD004	EHRD
TC475	117	CU012	SERU	CD005	EHRD
TC476	117	CU013	SERU	CD006	EHRD
TC477	117	CU014	SERU	CD007	EHRD
TC478	113.9	CU008	SERU	CD008	NWLD
TC479	113.9	CU009	SERU	CD009	NWLD
TC480	113.9	CU010	SERU	CD010	NWLD
TC481	113.9	CU011	SERU	CD011	NWLD
TC482	113.9	CU012	SERU	CD012	NWLD
TC483	113.9	CU013	SERU	CD013	NWLD
TC484	113.9	CU014	SERU	CD014	NWLD
TC485	112	CU008	SERU	CD008	NELD
TC486	112	CU009	SERU	CD009	NELD
TC487	112	CU010	SERU	CD010	NELD
TC488	112	CU011	SERU	CD011	NELD
TC489	112	CU012	SERU	CD012	NELD
TC490	112	CU013	SERU	CD013	NELD
TC491	112	CU014	SERU	CD014	NELD
TC492	111.9	CU008	SERU	CD008	SWLD
TC493	111.9	CU009	SERU	CD009	SWLD
TC494	111.9	CU010	SERU	CD010	SWLD
TC495	111.9	CU011	SERU	CD011	SWLD

TC496	111.9	CU012	SERU	CD012	SWLD
TC497	111.9	CU013	SERU	CD013	SWLD
TC498	111.9	CU014	SERU	CD014	SWLD
TC499	113.7	CU008	SERU	CD008	SELD
TC500	113.7	CU009	SERU	CD009	SELD
TC501	113.7	CU010	SERU	CD010	SELD
TC502	113.7	CU011	SERU	CD011	SELD
TC503	113.7	CU012	SERU	CD012	SELD
TC504	113.7	CU013	SERU	CD013	SELD
TC505	113.7	CU014	SERU	CD014	SELD
TC506	118.6	CU008	SERU	KD001	S1VD
TC507	118.6	CU009	SERU	KD002	S1VD
TC508	118.6	CU010	SERU	KD003	S1VD
TC509	118.6	CU011	SERU	KD004	S1VD
TC510	118.6	CU012	SERU	KD005	S1VD
TC511	118.6	CU013	SERU	KD006	S1VD
TC512	118.3	CU008	SERU	KD007	S1VD
TC513	118.3	CU009	SERU	KD008	S1VD
TC514	118.3	CU010	SERU	KD009	S1VD
TC515	118.3	CU011	SERU	KD010	S1VD
TC516	118.3	CU012	SERU	KD011	S1VD
TC517	118.6	CU008	SERU	KD012	S2HD
TC518	118.6	CU009	SERU	KD013	S2HD
TC519	118.6	CU010	SERU	KD014	S2HD
TC520	118.6	CU011	SERU	KD015	S2HD
TC681	112.6	CU008	NSWU	CD008	SELD
TC682	112.6	CU009	NSWU	CD009	SELD
TC683	112.6	CU010	NSWU	CD010	SELD
TC684	112.6	CU011	NSWU	CD011	SELD
TC685	112.6	CU012	NSWU	CD012	SELD
TC686	112.6	CU013	NSWU	CD013	SELD
TC687	112.6	CU014	NSWU	CD014	SELD
TC688	117.5	CU008	NSWU	KD001	S1VD
TC689	117.5	CU009	NSWU	KD002	S1VD
TC690	117.5	CU010	NSWU	KD003	S1VD
TC691	117.5	CU011	NSWU	KD004	S1VD
TC692	117.5	CU012	NSWU	KD005	S1VD
TC693	117.5	CU013	NSWU	KD006	S1VD
TC694	117.2	CU008	NSWU	KD007	S1VD



TC695	117.2	CU009	NSWU	KD008	S1VD
TC696	117.2	CU010	NSWU	KD009	S1VD
TC697	117.2	CU011	NSWU	KD010	S1VD
TC698	117.2	CU012	NSWU	KD011	S1VD
TC699	117.5	CU008	NSWU	KD012	S2HD
TC700	117.5	CU009	NSWU	KD013	S2HD
TC701	117.5	CU010	NSWU	KD014	S2HD
TC702	117.5	CU011	NSWU	KD015	S2HD
TC703	117.5	CU012	NSWU	KD016	S2HD
TC704	117.5	CU013	NSWU	KD017	S2HD
TC705	117.2	CU008	NSWU	KD018	S2HD
TC706	117.2	CU009	NSWU	KD019	S2HD
TC707	117.2	CU010	NSWU	KD020	S2HD
TC708	117.2	CU011	NSWU	KD021	S2HD
TC709	117.2	CU012	NSWU	KD022	S2HD
TC710	117.5	CU008	NSWU	KD012	S2AD
TC711	117.5	CU009	NSWU	KD013	S2AD
TC712	117.5	CU010	NSWU	KD014	S2AD
TC713	117.5	CU011	NSWU	KD015	S2AD
TC714	117.5	CU012	NSWU	KD016	S2AD
TC715	117.5	CU013	NSWU	KD017	S2AD
TC716	117.2	CU008	NSWU	KD018	S2AD
TC717	117.2	CU009	NSWU	KD019	S2AD
TC718	117.2	CU010	NSWU	KD020	S2AD
TC719	117.2	CU011	NSWU	KD021	S2AD
TC720	117.2	CU012	NSWU	KD022	S2AD
TC721	116.8	CU008	NSWU	KD001	S3VD
TC722	116.8	CU009	NSWU	KD002	S3VD
TC723	116.8	CU010	NSWU	KD003	S3VD
TC724	116.8	CU011	NSWU	KD004	S3VD
TC725	116.8	CU012	NSWU	KD005	S3VD
TC726	116.8	CU013	NSWU	KD006	S3VD
TC727	117	CU008	NSWU	KD007	S3VD
TC728	117	CU009	NSWU	KD008	S3VD
TC729	117	CU010	NSWU	KD009	S3VD
TC730	117	CU011	NSWU	KD010	S3VD
TC731	117	CU012	NSWU	KD011	S3VD
TC732	116.9	CU008	NSWU	KD023	S3VD
TC733	116.9	CU009	NSWU	KD024	S3VD

TC734	116.9	CU010	NSWU	KD025	S3VD
TC735	116.9	CU011	NSWU	KD026	S3VD
TC736	116.9	CU012	NSWU	KD027	S3VD
TC737	123.5	CU007	GALU	CD007	EHRD
TC738	121.7	CU007	GALU	CD007	GARD
TC739	121.7	CU015	GALU	CD015	GARD
TC740	121.7	CU016	GALU	CD016	GARD
TC741	121.7	CU017	GALU	CD017	GARD
TC742	121.5	CU007	GALU	CD007	CARD
TC743	121.5	CU015	GALU	CD015	CARD
TC744	121.5	CU016	GALU	CD016	CARD
TC745	121.5	CU017	GALU	CD017	CARD
TC746	122.1	CU014	GBRU	CD007	WHRD
TC747	121.3	CU014	GBRU	CD014	GBLD
TC748	121.3	CU018	GBRU	CD018	GBLD
TC749	121.3	CU019	GBRU	CD019	GBLD
TC750	121.3	CU020	GBRU	CD020	GBLD
TC751	121.2	CU014	GBRU	CD014	CBLD
TC752	121.2	CU018	GBRU	CD018	CBLD
TC753	121.2	CU019	GBRU	CD019	CBLD
TC754	121.2	CU020	GBRU	CD020	CBLD
TC755	116.3	CU007	CALU	CD007	EHRD
TC756	114.5	CU007	CALU	CD007	GARD
TC757	114.5	CU015	CALU	CD015	GARD
TC758	114.5	CU016	CALU	CD016	GARD
TC759	114.5	CU017	CALU	CD017	GARD
TC760	114.3	CU007	CALU	CD007	CARD
TC761	114.3	CU015	CALU	CD015	CARD
TC762	114.3	CU016	CALU	CD016	CARD
TC763	114.3	CU017	CALU	CD017	CARD
TC764	114.9	CU014	CBRU	CD007	WHRD
TC765	114.1	CU014	CBRU	CD014	GBLD
TC766	114.1	CU018	CBRU	CD018	GBLD
TC767	114.1	CU019	CBRU	CD019	GBLD
TC768	114.1	CU020	CBRU	CD020	GBLD
TC769	114	CU014	CBRU	CD014	CBLD
TC770	114	CU018	CBRU	CD018	CBLD
TC771	114	CU019	CBRU	CD019	CBLD
TC772	114	CU020	CBRU	CD020	CBLD

TK001	105.9	KU001	S1HU	CD001	WHRD
TK002	105.9	KU002	S1HU	CD002	WHRD
TK003	105.9	KU003	S1HU	CD003	WHRD
TK004	105.9	KU004	S1HU	CD004	WHRD
TK005	105.9	KU005	S1HU	CD005	WHRD
TK006	105.9	KU006	S1HU	CD006	WHRD
TK007	107.6	KU001	S1HU	CD001	EHRD
TK008	107.6	KU002	S1HU	CD002	EHRD
TK009	107.6	KU003	S1HU	CD003	EHRD
TK010	107.6	KU004	S1HU	CD004	EHRD
TK011	107.6	KU005	S1HU	CD005	EHRD
TK012	107.6	KU006	S1HU	CD006	EHRD
TK013	104.5	KU001	S1HU	CD008	NWLD
TK014	104.5	KU002	S1HU	CD009	NWLD
TK015	104.5	KU003	S1HU	CD010	NWLD
TK016	104.5	KU004	S1HU	CD011	NWLD
TK017	104.5	KU005	S1HU	CD012	NWLD
TK018	104.5	KU006	S1HU	CD013	NWLD
TK019	102.6	KU001	S1HU	CD008	NELD
TK020	102.6	KU002	S1HU	CD009	NELD
TK021	102.6	KU003	S1HU	CD010	NELD
TK022	102.6	KU004	S1HU	CD011	NELD
TK023	102.6	KU005	S1HU	CD012	NELD
TK024	102.6	KU006	S1HU	CD013	NELD
TK025	102.5	KU001	S1HU	CD008	SWLD
TK026	102.5	KU002	S1HU	CD009	SWLD
TK027	102.5	KU003	S1HU	CD010	SWLD
TK028	102.5	KU004	S1HU	CD011	SWLD
TK029	102.5	KU005	S1HU	CD012	SWLD
TK030	102.5	KU006	S1HU	CD013	SWLD
TK031	104.3	KU001	S1HU	CD008	SELD
TK032	104.3	KU002	S1HU	CD009	SELD
TK033	104.3	KU003	S1HU	CD010	SELD
TK034	104.3	KU004	S1HU	CD011	SELD
TK035	104.3	KU005	S1HU	CD012	SELD
TK036	104.3	KU006	S1HU	CD013	SELD
TK037	109.2	KU001	S1HU	KD001	S1VD
TK038	109.2	KU002	S1HU	KD002	S1VD
TK039	109.2	KU003	S1HU	KD003	S1VD

TK040	109.2	KU004	S1HU	KD004	S1VD
TK041	109.2	KU005	S1HU	KD005	S1VD
TK042	109.2	KU007	S1HU	KD028	S1VD
TK043	109.2	KU008	S1HU	KD029	S1VD
TK044	108.9	KU001	S1HU	KD007	S1VD
TK045	108.9	KU002	S1HU	KD008	S1VD
TK046	108.9	KU003	S1HU	KD009	S1VD
TK047	108.9	KU004	S1HU	KD010	S1VD
TK048	108.9	KU005	S1HU	KD011	S1VD
TK049	109.2	KU001	S1HU	KD012	S2HD
TK050	109.2	KU002	S1HU	KD013	S2HD
TK051	109.2	KU003	S1HU	KD014	S2HD
TK052	109.2	KU004	S1HU	KD015	S2HD
TK053	109.2	KU005	S1HU	KD016	S2HD
TK054	109.2	KU007	S1HU	KD030	S2HD
TK055	109.2	KU008	S1HU	KD031	S2HD
TK056	108.9	KU001	S1HU	KD018	S2HD
TK057	108.9	KU002	S1HU	KD019	S2HD
TK058	108.9	KU003	S1HU	KD020	S2HD
TK059	108.9	KU004	S1HU	KD021	S2HD
TK060	108.9	KU005	S1HU	KD022	S2HD
TK061	109.2	KU001	S1HU	KD012	S2AD
TK062	109.2	KU002	S1HU	KD013	S2AD
TK063	109.2	KU003	S1HU	KD014	S2AD
TK064	109.2	KU004	S1HU	KD015	S2AD
TK065	109.2	KU005	S1HU	KD016	S2AD
TK066	109.2	KU007	S1HU	KD030	S2AD
TK067	109.2	KU008	S1HU	KD031	S2AD
TK068	108.9	KU001	S1HU	KD018	S2AD
TK069	108.9	KU002	S1HU	KD019	S2AD
TK070	108.9	KU003	S1HU	KD020	S2AD
TK071	108.9	KU004	S1HU	KD021	S2AD
TK072	108.9	KU005	S1HU	KD022	S2AD
TK073	108.6	KU001	S1HU	KD001	S3VD
TK074	108.6	KU002	S1HU	KD002	S3VD
TK075	108.6	KU003	S1HU	KD003	S3VD
TK076	108.6	KU004	S1HU	KD004	S3VD
TK077	108.6	KU005	S1HU	KD005	S3VD
TK078	108.6	KU007	S1HU	KD028	S3VD

TK079	108.6	KU008	S1HU	KD029	S3VD
TK080	108.7	KU001	S1HU	KD007	S3VD
TK081	108.7	KU002	S1HU	KD008	S3VD
TK082	108.7	KU003	S1HU	KD009	S3VD
TK083	108.7	KU004	S1HU	KD010	S3VD
TK084	108.7	KU005	S1HU	KD011	S3VD
TK085	108.6	KU001	S1HU	KD023	S3VD
TK086	108.6	KU002	S1HU	KD024	S3VD
TK087	108.6	KU003	S1HU	KD025	S3VD
TK088	108.6	KU004	S1HU	KD026	S3VD
TK089	108.6	KU005	S1HU	KD027	S3VD
TK090	109.2	KU009	S2VU	CD001	WHRD
TK091	109.2	KU010	S2VU	CD002	WHRD
TK092	109.2	KU011	S2VU	CD003	WHRD
TK093	109.2	KU012	S2VU	CD004	WHRD
TK094	109.2	KU013	S2VU	CD005	WHRD
TK095	109.2	KU014	S2VU	CD006	WHRD
TK096	110.9	KU009	S2VU	CD001	EHRD
TK097	110.9	KU010	S2VU	CD002	EHRD
TK098	110.9	KU011	S2VU	CD003	EHRD
TK099	110.9	KU012	S2VU	CD004	EHRD
TK100	110.9	KU013	S2VU	CD005	EHRD
TK101	110.9	KU014	S2VU	CD006	EHRD
TK102	107.8	KU009	S2VU	CD008	NWLD
TK103	107.8	KU010	S2VU	CD009	NWLD
TK104	107.8	KU011	S2VU	CD010	NWLD
TK105	107.8	KU012	S2VU	CD011	NWLD
TK106	107.8	KU013	S2VU	CD012	NWLD
TK107	107.8	KU014	S2VU	CD013	NWLD
TK108	105.9	KU009	S2VU	CD008	NELD
TK109	105.9	KU010	S2VU	CD009	NELD
TK110	105.9	KU011	S2VU	CD010	NELD
TK111	105.9	KU012	S2VU	CD011	NELD
TK112	105.9	KU013	S2VU	CD012	NELD
TK113	105.9	KU014	S2VU	CD013	NELD
TK114	105.8	KU009	S2VU	CD008	SWLD
TK115	105.8	KU010	S2VU	CD009	SWLD
TK116	105.8	KU011	S2VU	CD010	SWLD
TK117	105.8	KU012	S2VU	CD011	SWLD

TK118	105.8	KU013	S2VU	CD012	SWLD
TK119	105.8	KU014	S2VU	CD013	SWLD
TK120	107.6	KU009	S2VU	CD008	SELD
TK121	107.6	KU010	S2VU	CD009	SELD
TK122	107.6	KU011	S2VU	CD010	SELD
TK123	107.6	KU012	S2VU	CD011	SELD
TK124	107.6	KU013	S2VU	CD012	SELD
TK125	107.6	KU014	S2VU	CD013	SELD
TK126	112.5	KU009	S2VU	KD001	S1VD
TK127	112.5	KU010	S2VU	KD002	S1VD
TK128	112.5	KU011	S2VU	KD003	S1VD
TK129	112.5	KU012	S2VU	KD004	S1VD
TK130	112.5	KU013	S2VU	KD005	S1VD
TK131	112.5	KU015	S2VU	KD028	S1VD
TK132	112.5	KU016	S2VU	KD029	S1VD
TK133	112.2	KU009	S2VU	KD007	S1VD
TK134	112.2	KU010	S2VU	KD008	S1VD
TK135	112.2	KU011	S2VU	KD009	S1VD
TK136	112.2	KU012	S2VU	KD010	S1VD
TK137	112.2	KU013	S2VU	KD011	S1VD
TK138	112.5	KU009	S2VU	KD012	S2HD
TK139	112.5	KU010	S2VU	KD013	S2HD
TK140	112.5	KU011	S2VU	KD014	S2HD
TK141	112.5	KU012	S2VU	KD015	S2HD
TK142	112.5	KU013	S2VU	KD016	S2HD
TK143	112.5	KU015	S2VU	KD030	S2HD
TK144	112.5	KU016	S2VU	KD031	S2HD
TK145	112.2	KU009	S2VU	KD018	S2HD
TK146	112.2	KU010	S2VU	KD019	S2HD
TK147	112.2	KU011	S2VU	KD020	S2HD
TK148	112.2	KU012	S2VU	KD021	S2HD
TK149	112.2	KU013	S2VU	KD022	S2HD
TK150	111.9	KU009	S2VU	KD001	S3VD
TK151	111.9	KU010	S2VU	KD002	S3VD
TK152	111.9	KU011	S2VU	KD003	S3VD
TK153	111.9	KU012	S2VU	KD004	S3VD
TK154	111.9	KU013	S2VU	KD005	S3VD
TK155	111.9	KU015	S2VU	KD028	S3VD
TK156	111.9	KU016	S2VU	KD029	S3VD

TK157	112	KU009	S2VU	KD007	S3VD
TK158	112	KU010	S2VU	KD008	S3VD
TK159	112	KU011	S2VU	KD009	S3VD
TK160	112	KU012	S2VU	KD010	S3VD
TK161	112	KU013	S2VU	KD011	S3VD
TK162	111.9	KU009	S2VU	KD023	S3VD
TK163	111.9	KU010	S2VU	KD024	S3VD
TK164	111.9	KU011	S2VU	KD025	S3VD
TK165	111.9	KU012	S2VU	KD026	S3VD
TK166	111.9	KU013	S2VU	KD027	S3VD
TK167	111.2	KU009	S2AU	CD001	WHRD
TK168	111.2	KU010	S2AU	CD002	WHRD
TK169	111.2	KU011	S2AU	CD003	WHRD
TK170	111.2	KU012	S2AU	CD004	WHRD
TK171	111.2	KU013	S2AU	CD005	WHRD
TK172	111.2	KU014	S2AU	CD006	WHRD
TK173	112.9	KU009	S2AU	CD001	EHRD
TK174	112.9	KU010	S2AU	CD002	EHRD
TK175	112.9	KU011	S2AU	CD003	EHRD
TK176	112.9	KU012	S2AU	CD004	EHRD
TK177	112.9	KU013	S2AU	CD005	EHRD
TK178	112.9	KU014	S2AU	CD006	EHRD
TK179	109.8	KU009	S2AU	CD008	NWLD
TK180	109.8	KU010	S2AU	CD009	NWLD
TK181	109.8	KU011	S2AU	CD010	NWLD
TK182	109.8	KU012	S2AU	CD011	NWLD
TK183	109.8	KU013	S2AU	CD012	NWLD
TK184	109.8	KU014	S2AU	CD013	NWLD
TK185	107.9	KU009	S2AU	CD008	NELD
TK186	107.9	KU010	S2AU	CD009	NELD
TK187	107.9	KU011	S2AU	CD010	NELD
TK188	107.9	KU012	S2AU	CD011	NELD
TK189	107.9	KU013	S2AU	CD012	NELD
TK190	107.9	KU014	S2AU	CD013	NELD
TK191	107.8	KU009	S2AU	CD008	SWLD
TK192	107.8	KU010	S2AU	CD009	SWLD
TK193	107.8	KU011	S2AU	CD010	SWLD
TK194	107.8	KU012	S2AU	CD011	SWLD
TK195	107.8	KU013	S2AU	CD012	SWLD

TK196	107.8	KU014	S2AU	CD013	SWLD
TK197	109.6	KU009	S2AU	CD008	SELD
TK198	109.6	KU010	S2AU	CD009	SELD
TK199	109.6	KU011	S2AU	CD010	SELD
TK200	109.6	KU012	S2AU	CD011	SELD
TK201	109.6	KU013	S2AU	CD012	SELD
TK202	109.6	KU014	S2AU	CD013	SELD
TK203	114.5	KU009	S2AU	KD001	S1VD
TK204	114.5	KU010	S2AU	KD002	S1VD
TK205	114.5	KU011	S2AU	KD003	S1VD
TK206	114.5	KU012	S2AU	KD004	S1VD
TK207	114.5	KU013	S2AU	KD005	S1VD
TK208	114.5	KU015	S2AU	KD028	S1VD
TK209	114.5	KU016	S2AU	KD029	S1VD
TK210	114.2	KU009	S2AU	KD007	S1VD
TK211	114.2	KU010	S2AU	KD008	S1VD
TK212	114.2	KU011	S2AU	KD009	S1VD
TK213	114.2	KU012	S2AU	KD010	S1VD
TK214	114.2	KU013	S2AU	KD011	S1VD
TK215	114.5	KU009	S2AU	KD012	S2AD
TK216	114.5	KU010	S2AU	KD013	S2AD
TK217	114.5	KU011	S2AU	KD014	S2AD
TK218	114.5	KU012	S2AU	KD015	S2AD
TK219	114.5	KU013	S2AU	KD016	S2AD
TK220	114.5	KU015	S2AU	KD030	S2AD
TK221	114.5	KU016	S2AU	KD031	S2AD
TK222	114.2	KU009	S2AU	KD018	S2AD
TK223	114.2	KU010	S2AU	KD019	S2AD
TK224	114.2	KU011	S2AU	KD020	S2AD
TK225	114.2	KU012	S2AU	KD021	S2AD
TK226	114.2	KU013	S2AU	KD022	S2AD
TK227	113.9	KU009	S2AU	KD001	S3VD
TK228	113.9	KU010	S2AU	KD002	S3VD
TK229	113.9	KU011	S2AU	KD003	S3VD
TK230	113.9	KU012	S2AU	KD004	S3VD
TK231	113.9	KU013	S2AU	KD005	S3VD
TK232	113.9	KU015	S2AU	KD028	S3VD
TK233	113.9	KU016	S2AU	KD029	S3VD
TK234	114	KU009	S2AU	KD007	S3VD



TK235	114	KU010	S2AU	KD008	S3VD
TK236	114	KU011	S2AU	KD009	S3VD
TK237	114	KU012	S2AU	KD010	S3VD
TK238	114	KU013	S2AU	KD011	S3VD
TK239	113.9	KU009	S2AU	KD023	S3VD
TK240	113.9	KU010	S2AU	KD024	S3VD
TK241	113.9	KU011	S2AU	KD025	S3VD
TK242	113.9	KU012	S2AU	KD026	S3VD
TK243	113.9	KU013	S2AU	KD027	S3VD
TK244	105.2	KU001	S3HU	CD001	WHRD
TK245	105.2	KU002	S3HU	CD002	WHRD
TK246	105.2	KU003	S3HU	CD003	WHRD
TK247	105.2	KU004	S3HU	CD004	WHRD
TK248	105.2	KU005	S3HU	CD005	WHRD
TK249	105.2	KU006	S3HU	CD006	WHRD
TK250	106.9	KU001	S3HU	CD001	EHRD
TK251	106.9	KU002	S3HU	CD002	EHRD
TK252	106.9	KU003	S3HU	CD003	EHRD
TK253	106.9	KU004	S3HU	CD004	EHRD
TK254	106.9	KU005	S3HU	CD005	EHRD
TK255	106.9	KU006	S3HU	CD006	EHRD
TK256	103.8	KU001	S3HU	CD008	NWLD
TK257	103.8	KU002	S3HU	CD009	NWLD
TK258	103.8	KU003	S3HU	CD010	NWLD
TK259	103.8	KU004	S3HU	CD011	NWLD
TK260	103.8	KU005	S3HU	CD012	NWLD
TK261	103.8	KU006	S3HU	CD013	NWLD
TK262	101.9	KU001	S3HU	CD008	NELD
TK263	101.9	KU002	S3HU	CD009	NELD
TK264	101.9	KU003	S3HU	CD010	NELD
TK265	101.9	KU004	S3HU	CD011	NELD
TK266	101.9	KU005	S3HU	CD012	NELD
TK267	101.9	KU006	S3HU	CD013	NELD
TK268	101.8	KU001	S3HU	CD008	SWLD
TK269	101.8	KU002	S3HU	CD009	SWLD
TK270	101.8	KU003	S3HU	CD010	SWLD
TK271	101.8	KU004	S3HU	CD011	SWLD
TK272	101.8	KU005	S3HU	CD012	SWLD
TK273	101.8	KU006	S3HU	CD013	SWLD

TK274	103.6	KU001	S3HU	CD008	SELD
TK275	103.6	KU002	S3HU	CD009	SELD
TK276	103.6	KU003	S3HU	CD010	SELD
TK277	103.6	KU004	S3HU	CD011	SELD
TK278	103.6	KU005	S3HU	CD012	SELD
TK279	103.6	KU006	S3HU	CD013	SELD
TK280	108.5	KU001	S3HU	KD001	S1VD
TK281	108.5	KU002	S3HU	KD002	S1VD
TK282	108.5	KU003	S3HU	KD003	S1VD
TK283	108.5	KU004	S3HU	KD004	S1VD
TK284	108.5	KU005	S3HU	KD005	S1VD
TK285	108.5	KU007	S3HU	KD028	S1VD
TK286	108.5	KU008	S3HU	KD029	S1VD
TK287	108.2	KU001	S3HU	KD007	S1VD
TK288	108.2	KU002	S3HU	KD008	S1VD
TK289	108.2	KU003	S3HU	KD009	S1VD
TK290	108.2	KU004	S3HU	KD010	S1VD
TK291	108.2	KU005	S3HU	KD011	S1VD
TK292	108.5	KU001	S3HU	KD012	S2HD
TK293	108.5	KU002	S3HU	KD013	S2HD
TK294	108.5	KU003	S3HU	KD014	S2HD
TK295	108.5	KU004	S3HU	KD015	S2HD
TK296	108.5	KU005	S3HU	KD016	S2HD
TK297	108.5	KU007	S3HU	KD030	S2HD
TK298	108.5	KU008	S3HU	KD031	S2HD
TK299	108.2	KU001	S3HU	KD018	S2HD
TK300	108.2	KU002	S3HU	KD019	S2HD
TK301	108.2	KU003	S3HU	KD020	S2HD
TK302	108.2	KU004	S3HU	KD021	S2HD
TK303	108.2	KU005	S3HU	KD022	S2HD
TK304	108.5	KU001	S3HU	KD012	S2AD
TK305	108.5	KU002	S3HU	KD013	S2AD
TK306	108.5	KU003	S3HU	KD014	S2AD
TK307	108.5	KU004	S3HU	KD015	S2AD
TK308	108.5	KU005	S3HU	KD016	S2AD
TK309	108.5	KU007	S3HU	KD030	S2AD
TK310	108.5	KU008	S3HU	KD031	S2AD
TK311	108.2	KU001	S3HU	KD018	S2AD
TK312	108.2	KU002	S3HU	KD019	S2AD

TK313	108.2	KU003	S3HU	KD020	S2AD
TK314	108.2	KU004	S3HU	KD021	S2AD
TK315	108.2	KU005	S3HU	KD022	S2AD
TK316	107.9	KU001	S3HU	KD001	S3VD
TK317	107.9	KU002	S3HU	KD002	S3VD
TK318	107.9	KU003	S3HU	KD003	S3VD
TK319	107.9	KU004	S3HU	KD004	S3VD
TK320	107.9	KU005	S3HU	KD005	S3VD
TK321	107.9	KU007	S3HU	KD028	S3VD
TK322	107.9	KU008	S3HU	KD029	S3VD
TK323	108	KU001	S3HU	KD007	S3VD
TK324	108	KU002	S3HU	KD008	S3VD
TK325	108	KU003	S3HU	KD009	S3VD
TK326	108	KU004	S3HU	KD010	S3VD
TK327	108	KU005	S3HU	KD011	S3VD
TK328	107.9	KU001	S3HU	KD023	S3VD
TK329	107.9	KU002	S3HU	KD024	S3VD
TK330	107.9	KU003	S3HU	KD025	S3VD
TK331	107.9	KU004	S3HU	KD026	S3VD
TK332	107.9	KU005	S3HU	KD027	S3VD
TC521	118.6	CU012	SERU	KD016	S2HD
TC522	118.6	CU013	SERU	KD017	S2HD
TC523	118.3	CU008	SERU	KD018	S2HD
TC524	118.3	CU009	SERU	KD019	S2HD
TC525	118.3	CU010	SERU	KD020	S2HD
TC526	118.3	CU011	SERU	KD021	S2HD
TC527	118.3	CU012	SERU	KD022	S2HD
TC528	118.6	CU008	SERU	KD012	S2AD
TC529	118.6	CU009	SERU	KD013	S2AD
TC530	118.6	CU010	SERU	KD014	S2AD
TC531	118.6	CU011	SERU	KD015	S2AD
TC532	118.6	CU012	SERU	KD016	S2AD
TC533	118.6	CU013	SERU	KD017	S2AD
TC534	118.3	CU008	SERU	KD018	S2AD
TC535	118.3	CU009	SERU	KD019	S2AD
TC536	118.3	CU010	SERU	KD020	S2AD
TC537	118.3	CU011	SERU	KD021	S2AD
TC538	118.3	CU012	SERU	KD022	S2AD
TC539	118	CU008	SERU	KD001	S3VD

TC540	118	CU009	SERU	KD002	S3VD
TC541	118	CU010	SERU	KD003	S3VD
TC542	118	CU011	SERU	KD004	S3VD
TC543	118	CU012	SERU	KD005	S3VD
TC544	118	CU013	SERU	KD006	S3VD
TC545	118.1	CU008	SERU	KD007	S3VD
TC546	118.1	CU009	SERU	KD008	S3VD
TC547	118.1	CU010	SERU	KD009	S3VD
TC548	118.1	CU011	SERU	KD010	S3VD
TC549	118.1	CU012	SERU	KD011	S3VD
TC550	118	CU008	SERU	KD023	S3VD
TC551	118	CU009	SERU	KD024	S3VD
TC552	118	CU010	SERU	KD025	S3VD
TC553	118	CU011	SERU	KD026	S3VD
TC554	118	CU012	SERU	KD027	S3VD
TC555	115.3	CU008	NSEU	CD001	WHRD
TC556	115.3	CU009	NSEU	CD002	WHRD
TC557	115.3	CU010	NSEU	CD003	WHRD
TC558	115.3	CU011	NSEU	CD004	WHRD
TC559	115.3	CU012	NSEU	CD005	WHRD
TC560	115.3	CU013	NSEU	CD006	WHRD

**FEDERAL COMMUNICATIONS COMMISSION**  
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**FCC Form 312 - Schedule S: (Technical and Operational Description)**

S11. DIGITAL MODULATION PARAMETERS For each digital emission provide:

(a) Digital Mod. ID	(b) Emission Designator	(c) Assigned Bandwidth (kHz)	(d) No. of Phases	(e) Uncoded Data Rate (kbps)	(f) FEC Error Correction Coding Rate	(g) CDMA Processing Gain (dB)	(h) Total C/N Performance Objective (dB)	(i) Single Entry C/I Objective (dB)
D1	112MG7W	93333	4	129020	0.75		8	13.8
D2	36M0G7W	30000	4	41471	0.75		8	15.7
D3	1M45G7W	1229	2	512	0.5		3.4	12
D4	400KG7W	307	2	128	0.5		3.4	11.3
D5	3M7G7W	2413	4	2048	0.5		2.99	12.3
D6	400KG7W	301.6	4	256	0.5		2.99	12
D7	77M0G7W	64167	4	88701	0.75		8	14.4
D8	77M0G7W	60000	4	88701	0.75		8	14.4

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**Page 8: Analog Modulation**

S12. ANALOG MODULATION PARAMETERS For each analog emission provide:

(a) Analog Mod. ID	(b) Emission Designator	(c) Assigned Bandwidth (kHz)	(d) Signal Type	(e) Channels per Carrier	Multi-channel Telephony				(j) Video Standard NTSC, PAL, etc.	(k) Video Noise- Weighting (dB)	(l) Video and SCPC/FM Modulation Index	(m) SCPC/FM Compander, Preemphasis, and Noise Weighting (dB)	(n) Total C/N Performance Objective (dB)	(o) Single Entry C/I Objective (dB)
					(f) Ave. Companded Talker Level (dBm0)	(g) Bottom Baseband Freq. (MHz)	(h) Top Baseband Freq. (MHz)	(i) RMS Modulation Index						
A1	36M0F3F	36000	TV/FM	1					NTSC	12.8	1.5		10	18.3

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**FCC Form 312 - Schedule S: (Technical and Operational Description)**

S13. TYPICAL EMISSIONS For each planned type of emission provide:

Associated Transponder ID Range (a) Start (b) End		Modulation ID		(e) Carriers per Transponder	(f) Carrier Spacing (kHz)	(g) Noise Budget Reference (Table No.)	(h) Energy Dispersal Bandwidth (kHz)	Receive Band (Assoc. Transmit Stn)			Transmit Band (This Space Station)			
		(c) Digital (Table S11)	(d) Analog (Table S12)					(i) Assoc. Stn. Max. Antenna Gain (dBi)	Assoc. Station Transmit Power (dBW) (j) Min. (k) Max.		EIRP (dBW) (l) Min. (m) Max.		(n) Max. Power Flux Density (dBW/m <sup>2</sup> /Hz)	(o) Assoc. Stn Rec. G/T (dB/K)
TC001	TK332		A1	2	36000	KuBand Link Bu	4000	56.9	14.5	18.5	38.1	42.1	-150	36.6
TC001	TK332	D3		53	1450	KuBand Link Bu		42.9	4.3	8.3	23.2	27.2	-159.8	31
TC001	TK332	D4		192	400	KuBand Link Bu		42.9	-1.3	2.7	17.6	21.6	-159.4	31
TC001	TK332	D5		25	3075	KuBand Link Bu		42.9	7.5	11.5	26.4	30.4	-159.5	31
TC001	TK332	D6		192	400	KuBand Link Bu		42.9	-1.3	2.7	17.6	21.6	-159.3	31
TC001	TK332	D8		1	77000	KuBand Link Bu		52.7	17.2	21.2	43.9	47.9	-156	28.6
TC001	TK332		A1	2	36000	KuBand Link Bu	4000	52.7	17.7	21.7	38.1	42.1	-150	36.6
TC001	TK332	D5		11	3075	CBand Link Bu		41.9	14.3	20.3	19.4	25.4	-164.5	26.2
TC001	TK332	D2		1	36000	CBand Link Bu		52.8	17	23	33.3	39.3	-161.6	28.4
TC001	TK332	D6		90	400	CBand Link Bu		41.9	5.2	11.2	10.2	16.2	-164.7	26.2
TC001	TK332		A1	1	36000	CBand Link Bu	4000	54.1	17.5	23.5	28	34	-158.1	39.9
TC001	TK332	D5		11	3075	CBand Link Bu		43.2	18	24	15.3	18.3	-171.6	28.4
TC001	TK332	D2		1	36000	CBand Link Bu		54.1	17.7	23.7	29.2	32.2	-168.7	31
TC001	TK332	D6		90	400	CBand Link Bu		41.9	9.9	15.9	6.2	9.2	-171.7	28.4
TC001	TK332		A1	1	36000	CBand Link Bu	4000	60.2	14.6	20.6	29.2	32.2	-159.9	34.5
TC001	TK332	D5		11	3075	CBand Link Bu		41.9	14.3	20.3	19.2	25.2	-164.7	26.2
TC001	TK332	D2		1	36000	CBand Link Bu		56.4	17.4	23.4	33.1	39.1	-161.8	26.6
TC001	TK332	D6		90	400	CBand Link Bu		41.9	5.2	11.2	10	16	-164.9	26.2
TC001	TK332		A1	1	36000	CBand Link Bu	4000	54.1	17.5	23.5	28	34	-158.1	39.9
TC001	TK332	D5		11	3075	CBand Link Bu		41.9	19.9	22.9	15.3	18.3	-171.6	28.4
TC001	TK332	D2		1	36000	CBand Link Bu		52.8	20.9	23.9	29.2	32.2	-168.7	31
TC001	TK332	D6		90	400	CBand Link Bu		41.9	10.5	13.5	6.2	9.2	-171.7	28.4
TC001	TK332		A1	1	36000	CBand Link Bu	4000	55.4	20.3	23.3	29.2	32.2	-159.9	34.5
TC001	TK332	D5		11	3075	CBand Link Bu		41.9	15.2	18.2	19.4	25.4	-164.5	26.2
TC001	TK332	D2		1	36000	CBand Link Bu		54.1	20.6	23.6	33.3	39.3	-161.6	26.6
TC001	TK332	D6		90	400	CBand Link Bu		41.9	6.1	9.1	10.2	16.2	-164.7	26.2
TC001	TK332		A1	1	36000	CBand Link Bu	4000	56.4	16.1	19.1	28	34	-158.1	39.9
TC001	TK332	D5		11	3075	CBand Link Bu		41.9	14.9	17.9	19.2	25.2	-164.7	26.2
TC001	TK332	D2		1	36000	CBand Link Bu		55.4	20.1	23.1	33.1	39.1	-161.8	26.6

TC001	TK332	D6		90	400	CBand Link Bu		41.9	6.8	9.8	10.1	16.1	-164.8	26.2
TC001	TK332		A1	1	36000	CBand Link Bu	4000	55.4	20.1	23.1	28	34	-158.1	35.5
TC001	TK332	D5		11	3075	CBand Link Bu		41.9	13.9	19.9	19.4	25.4	-164.5	26.2
TC001	TK332	D2		1	36000	CBand Link Bu		56.4	17.3	23.3	33.3	39.3	-161.6	26.6
TC001	TK332	D6		90	400	CBand Link Bu		41.9	4.8	10.8	10.3	16.3	-164.6	26.2
TC001	TK332		A1	1	36000	CBand Link Bu	4000	60.2	12.5	18.5	33.3	39.3	-152.8	31
TC001	TK332		A1	1	36000	CBand Link Bu	4000	60.2	13.2	19.2	28	34	-158.1	31
TC001	TK332	D5		11	3075	CBand Link Bu		55.4	5.4	11.4	15.3	18.3	-171.6	28.4
TC001	TK332	D2		1	36000	CBand Link Bu		55.4	17.3	23.3	29.2	32.2	-168.7	31
TC001	TK332	D6		90	400	CBand Link Bu		55.4	-3.7	2.3	6.2	9.2	-171.7	28.4
TC001	TK332		A1	1	36000	CBand Link Bu	4000	58.4	18.3	24.3	28.6	31.6	-160.5	34.5
TC001	TK332	D5		25	3075	CBand Link Bu		41.9	17.3	23.3	15.6	21.6	-168.3	26.6
TC001	TK332	D6		192	400	CBand Link Bu		41.9	8.5	14.5	6.8	12.8	-168.1	26.6
TC001	TK332	D7		1	77000	CBand Link Bu		56.4	17.3	23.3	33.1	39.1	-165.1	26.2
TC001	TK332		A1	2	36000	CBand Link Bu	4000	58.4	16.8	22.8	26.8	32.8	-159.3	35.5
TC001	TK332	D3		53	1450	KuBand Link Bu		42.9	3.8	7.8	21.9	25.9	-161.1	33.1
TC001	TK332	D4		192	400	KuBand Link Bu		42.9	-2.3	1.7	17.6	21.6	-159.4	31
TC001	TK332	D5		25	3075	KuBand Link Bu		42.9	6.5	10.5	26.4	30.4	-159.5	31
TC001	TK332	D6		192	400	KuBand Link Bu		42.9	-2.3	1.7	17.6	21.6	-159.3	31
TC001	TK332	D8		1	77000	KuBand Link Bu		52.7	18.2	22.2	43.9	47.9	-156.3	28.6
TC001	TK332		A1	1	36000	KuBand Link Bu	4000	54.7	18.2	22.2	43.9	47.9	-144.2	28.6
TC001	TK332	D3		77	1450	KuBand Link Bu		42.9	5.6	9.6	21.5	25.5	-161.5	33.1
TC001	TK332	D4		280	400	KuBand Link Bu		42.9	0	4	15.9	19.9	-161.1	31
TC001	TK332	D5		1	112000	KuBand Link Bu		52.7	18.2	22.2	43.9	47.9	-157.9	31
TC001	TK332	D6		36	3075	KuBand Link Bu		42.9	8.9	12.9	24.8	28.8	-161.1	31
TC001	TK332	D8		280	400	KuBand Link Bu		42.9	0	4	15.9	19.9	-161	31
TC001	TK332		A1	2	36000	KuBand Link Bu	4000	58.1	13.8	17.8	36.4	40.4	-151.7	38
TC001	TK332	D3		53	1450	KuBand Link Bu		42.9	6.3	10.3	23.2	27.2	-159.8	31
TC001	TK332	D4		192	400	KuBand Link Bu		42.9	0.7	4.7	17.6	21.6	-159.4	28.6
TC001	TK332	D5		25	3075	KuBand Link Bu		42.9	9.5	13.5	26.4	30.4	-159.5	31
TC001	TK332	D6		192	400	KuBand Link Bu		42.9	-0.3	3.7	17.6	21.6	-159.3	31
TC001	TK332	D8		1	77000	KuBand Link Bu		52.7	17.2	21.2	43.9	47.9	-156	28.6



**FEDERAL COMMUNICATIONS COMMISSION  
SATELLITE SPACE STATION AUTHORIZATIONS  
FCC Form 312 - Schedule S: (Technical and Operational Description)**

S14. Is the space station(s) controlled and monitored remotely? If Yes, provide the location and telephone number of the TT and C control point(s): Yes

**Remote Control (TT C) Location(s):**

S14a: Street Address: 3400 INTERNATIONAL DRIVE, N.W.			
S14b. City: WASHINGTON	S14c. County:	S14d. State/Country DC	S14e. Zip Code: 20008
S14f. Telephone Number: 202-944-7701		S14g. Call Sign of Control Station (if appropriate):	

**FEDERAL COMMUNICATIONS COMMISSION  
SATELLITE SPACE STATION AUTHORIZATIONS  
FCC Form 312 - Schedule S: (Technical and Operational Description)**

**Page 11:  
Characteristics and  
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S15. SPACECRAFT PHYSICAL CHARACTERISTICS:

S16. SPACECRAFT ELECTRICAL CHARACTERISTICS:

S17. CERTIFICATIONS:

a. Are the power flux density limits of § 25.208 met?:	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>	N/A
b. Are the appropriate service area coverage requirements of § 25.143(b)(ii) and (iii), or § 25.145(c)(1) and (2) met?	<input type="checkbox"/>	YES	<input type="checkbox"/>	NO	<input checked="" type="checkbox"/>	N/A
c. Are the frequency tolerances of § 25.202(e) and the out-of-band emission limits of § 25.202(f)(1), (2) and (3) met?	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>	N/A
<b>In addition to the information required in this Form, the space station applicant is required to provide all the information specified in Section 25.114 of the Commission's rules, 47 C.F.R § 25.114.</b>						