

Table 1: Message Header Record: Analyzer to ASTM Test Tool

ASTM	Field Name	Max Length	Field Contents	Field Description
7.1.1	Record Type ID	1	H	Header, Upper Case Only
7.1.2	Delimiter Definition	4	 \ ^ &	Field delimiter, vertical bar, (0x7C) Repeat delimiter, backslash, (0x5C) Component delimiter, caret, (0x5E) Escape delimiter, ampersand, (0x26)
7.1.3	Message Control ID	0	NULL	Not Used
7.1.4	Access Password	0	NULL	Not Used
7.1.5	Sender Name or ID	127		124 Max Characters + 3 '^' delimiters
7.1.5.1	Manufacturer	31	ABAXIS, INC.	Company Name
7.1.5.2	Analyser	31	ABAXIS type text	Analyser Name: "piccolo xpress" or "VetScan VS2"
7.1.5.3	Software Version	31	XX.YY.ZZ.PP	Version Format XX = Major Level YY = Minor Level ZZ = Issue fix/requirements update Level PP = Patch Level (optional)
7.1.5.4	Serial Number	10	Alphanumeric	serial number (alphanumeric)
7.1.6	Sender Street Address	0	NULL	Not Used
7.1.7	Reserved Field	0	NULL	Not Used
7.1.8	Sender Telephone Number	0	NULL	Not Used
7.1.9	Characteristics of Sender	0	NULL	Not Used
7.1.10	Receiver ID	0	NULL	Not Used
7.1.11	Comment or Special Instructions	0	NULL	Not Used

ASTM	Field Name	Max Length	Field Contents	Field Description
7.1.12	Processing ID	1	P D Q	Production (patient sample) Debugging (demo result) Quality Control (control sample)
7.1.13	Version No.	9	E 1394-97	ASTM version number as specified in ASTM E1394-97
7.1.14	Date and Time of Message	14	YYYYMMDDHHMMSS	ASTM specified date and time the message was constructed

Examples of Message Header Record:

H|¥^&|||ABAXIS, INC.^piccolo xpress^2.1.9^ 0000V0000D|||||P|E 1394-97|20060131141502<CR>

H|¥^&|||ABAXIS, INC.^VetScan VS2^2.1.9^ 0000V0000D|||||Q|E 1394-97|20060131080102<CR>

H|¥^&|||ABAXIS, INC.^ piccolo xpress ^2.1.9^ 0000V0000D|||||D|E 1394-97|20060303030303<CR>

H|¥^&|||ABAXIS, INC.^VetScan VS2^2.1.9^ 0000V0000D|||||D|E 1394-97|20060917120649<CR>

Table 2: Patient Record: Analyzer to ASTM Test Tool

ASTM	Field Name	Max Length	Field Contents	Field Description
8.1.1	Record Type	1	P	Patient, Upper Case Only
8.1.2	Sequence Number	5	1 to 65535	A sequence number consistent with sequence number rules. [normally 1]
8.1.3	Practice Assigned Patient ID	14	Alphanumeric	Patient ID or Control ID entered by operator (up to 14 character ASCII alphanumeric)
8.1.4	Laboratory Assigned Patient ID	14	Alphanumeric	Sample ID (up to 14 character ASCII alphanumeric)
8.1.5	Patient ID No. 3	14	Alphanumeric	Alternate ID (up to 14 character ASCII alphanumeric)
8.1.6	Patient Name	0	NULL	Not Used

ASTM	Field Name	Max Length	Field Contents	Field Description
8.1.7	Mother's Maiden Name	0	NULL	Not Used
8.1.8	Birthdate	8	ASCII	Date of Birth (DOB) (8 ASCII character numeric; e.g. 19531009)
8.1.9	Patient Sex	1	M F U	Male or Neutered Female or Spayed Unspecified
8.1.10	Patient Race-Ethnic Origin	0	NULL	Not Used
8.1.11	Patient Address	0	NULL	Not Used
8.1.12	Reserved Field	0	NULL	Not Used
8.1.13	Patient Telephone Number	14	ASCII	Patient Telephone Number (up to 14 character ASCII alphanumeric)
8.1.14	Attending Physician ID	0	NULL	Not Used
8.1.15	Special Field 1	38	Alphanumeric	“Owner/Admission ID^Patient Age^DOV”  Owner/Admission ID: - VetScan VS2: Owner ID up to 14 character - piccolo xpress : Admission ID up to 14 character  Patient Age: - up to 14 character  DOV: - piccolo xpress: Last Vaccination (8 ASCII character numeric; e.g. 20060731)
8.1.16	Special Field 2	31	Alphanumeric	Reference Range Label
8.1.17	Patient Height	0	NULL	Not Used
8.1.18	Patient Weight	0	NULL	Not Used
8.1.19	Patient's Known or Suspected Diagnosis	0	NULL	Not Used
8.1.20	Patient Active Medications	0	NULL	Not Used
8.1.21	Patient's Diet	0	NULL	Not Used
8.1.22	Practice Field No. 1	0	NULL	Not Used

ASTM	Field Name	Max Length	Field Contents	Field Description
8.1.23	Practice Field No. 2	0	NULL	Not Used
8.1.24	Admission and Discharge Dates	0	NULL	Not Used
8.1.25	Admission Status	0	NULL	Not Used
8.1.26	Location	14	Alphanumeric	Location or Kennel Number
8.1.27	Nature of Alternative Diagnostic Code and Classifiers	0	NULL	Not Used
8.1.28	Alternative Diagnostic Code and Classification	0	NULL	Not Used
8.1.29	Patient Religion	0	NULL	Not Used
8.1.30	Marital Status	0	NULL	Not Used
8.1.31	Isolation Status	0	NULL	Not Used
8.1.32	Language	0	NULL	Not Used
8.1.33	Hospital Service	0	NULL	Not Used
8.1.34	Hospital Institution	0	NULL	Not Used
8.1.35	Dosage Category	0	NULL	Not Used

Examples of Patient Record:

P|1|12345678901234|||||M<CR>

P|1|655321|||||U<CR>

P|1|123-45-6789|||||F<CR>

P|1|LEVEL VIII|||||U<CR>

2P|1|22222|44444|33333|||19990922|M|||77777|88888^7 Yrs.^20060228|Dog|||||||66666<CR>

Table 3: Test Order Record: Analyzer to ASTM Test Tool

ASTM	Field Name	Max Length	Field Contents	Field Description
9.4.1	Record Type ID	1	O	Order, Upper Case Only
9.4.2	Sequence Number	5	1 to 65535	A sequence number consistent with sequence number rules.
9.4.3	Specimen ID	0	NULL	Not Used
9.4.4	Instrument Specimen ID	0	NULL	Not Used
9.4.5	Universal Test ID	39		36 Max Characters + 3 '^' delimiters
9.4.5.1	Universal Test ID	0	NULL	Not Used
9.4.5.2	Universal Test ID Name	0	NULL	Not Used
9.4.5.3	Universal Test ID Type	0	NULL	Not Used
9.4.5.4	Manufacturer's or Local Code	36	Alphanumeric	Disc name from print card, or IQC header: Lot Number
9.4.6	Priority	0	NULL	Not Used
9.4.7	Requested/ Ordered Date and Time	14	YYYYMMDDHHMMSS	ASTM specified date and time the sample was run
9.4.8	Specimen Collection Date and Time	0	NULL	Not Used
9.4.9	Collection End Time	0	NULL	Not Used
9.4.10	Collection Volume	0	NULL	Not Used
9.4.11	Collector ID	14	Alphanumeric	Fourteen character alphanumeric Operator ID entered by operator
9.4.12	Action Code	0	NULL	Not Used
9.4.13	Danger Code	0	NULL	Not Used
9.1.14	Relevant Clinical Information	0	NULL	Not Used
9.4.15	Date/Time Specimen Received	0	NULL	Not Used
9.4.16	Specimen Descriptor	0	NULL	Not Used
9.4.16.1	Specimen Type	0	NULL	Not Used
9.4.16.2	Specimen Source	0	NULL	Not Used

ASTM	Field Name	Max Length	Field Contents	Field Description
9.4.17	Ordering Physician	14	Alphanumeric	Fourteen character alphanumeric Physician ID entered by operator
9.4.18	Physician 's Telephone Number	0	NULL	Not Used
9.4.19	Users Field No. 1	0	NULL	Not Used
9.4.20	Users Field No. 2	0	NULL	Not Used
9.4.21	Laboratory Field No. 1	0	NULL	Not Used
9.4.22	Laboratory Field No. 2	0	NULL	Not Used
9.4.23	Date/Time Results Reported or Last Modified	0	NULL	Not Used
9.4.24	Instrument Charge to Computer System	0	NULL	Not Used
9.4.25	Instrument Section ID	0	NULL	Not Used
9.4.26	Report Types	1	F Z Q	Final results (automatic transmission) No record of this patient (query response) Query response (record was requested by query)
9.4.27	Reserved Field	0	NULL	Not Used
9.4.28	Location or Ward of Specimen Collection	0	NULL	Not Used
9.4.29	Nosocomial Injection Flag	0	NULL	Not Used
9.4.30	Specimen Service	0	NULL	Not Used
9.4.31	Specimen Institution	0	NULL	Not Used

#### Examples of Test Order Record:

0|1|||^^^BASIC METABOLIC PANEL: 4400D||20040324083248|||69|||87|||Q<CR>

0|1|||^^^GENERAL CHEMISTRY 12: 1700D||20040326111909|||12345678901234|||655321|||Q<CR>

0|1|||^^^METLYTE 8: 4300D||20040326101249|||222222222222|||222222222222|||Q<CR>

0|1||||||||||||||Z<CR>

Table 4: Result Record: Analyzer to ASTM Test Tool

ASTM	Field Name	Max Length	Field Contents	Field Description
10.1.1	Record Type ID	1	R	Result, Upper Case Only
10.1.2	Sequence Number	5	1 to 65535	A sequence number consistent with sequence number rules.
10.1.3	Universal Test ID	436		LOINC Code or NULL, (Max Char. + 3 '^')
10.1.3.1	Universal Test ID	0	Alphanumeric	LOINC Code for Chemistry results, NULL otherwise
10.1.3.2	Universal Test ID Name	2	NULL	Not Used
10.1.3.3	Universal Test ID Type	32	LN	"LN" for Chemistry results, NULL otherwise
10.1.3.4	Manufacturer's or Local Code		Alphanumeric Free Text	LOINC "short name" for Chemistry results, Abaxis name otherwise
10.1.4	Data or Measurement Value	6	Alphanumeric	Supports same types and resolution as print card
10.1.5	Units	8	Alphanumeric	Common and SI units per ASTM & ISO Standard
10.1.6	Reference Ranges	10	Alphanumeric	Low Reference Range to High Reference Range
10.1.6.1	Reference Range	10		
10.1.6.2	Multiple Ranges	0		
10.1.7	Result Abnormal Flags	1	L H < > N	Below low normal Above high normal Below Dynamic Range Above Dynamic Range Within Normal Range
10.1.8	Nature of Abnormality Testing	0	NULL	Not Used
10.1.9	Result Status	0	NULL	Not Used
10.1.10	Date of Change in Instrument Normative Values or Units	0	NULL	Not Used
10.1.11	Operator Identification	0	NULL	Not Used
10.1.12	Date/Time Test Started	0	NULL	Not Used
10.1.13	Date/Time Test Completed	0	NULL	Not Used
10.1.14	Instrument identification	0	NULL	Not Used

Examples of Result Record:

R|8|2028-9^^LN^C02 SerPl-sCnc|26|mmol/l|18 to 33|N<CR>

R|2|3094-0^^LN^BUN SerPl-mCnc|15|mg/dl|7 to 22|N<CR><ETX>72<CR>

R|1|^ ^^LEVEL 1: IQC 1|102||90 to 110|<CR><ETX>C9<CR>

R|3|2160-0^^LN^Creat SerPl-mCnc|<0.2\*|mg/dl|0.6 to 1.2|<<CR>

R|9|^ ^^LEVEL 2: PRE|100||95 to 105|<CR><ETX>92<CR>

R|5|2951-2^^LN^Sodium SerPl-sCnc|^^~|mmol/l|128 to 145|<<CR>

R|2|3094-0^^LN^BUN SerPl-mCnc|3@|mg/dl|7 to 22|L<CR><ETX>77<CR>

R|17|^ ^^LEVEL 2: 630 nm|100||95 to 105|<CR>

R|6|2823-3^^LN^Potassium SerPl-sCnc|<1.5\*|mmol/l|3.6 to 5.1|<<CR>

R|6|13458-5^^LN^VLDLc SerPl Calc-mCnc|23c|mg/dl||<CR><ETX>42<CR>

Table 5: Comment Record: Analyzer to ASTM Test Tool

ASTM	Field Name	Max Length	Field Contents	Field Description
11.1.1	Record Type ID	1	C	Comment, Upper Case Only
11.1.2	Sequence Number	5	1 to 65535	A sequence number consistent with sequence number rules.
11.1.3	Comment Source	1	I	Comments are only from analyser
11.1.4	Comment Text Result Code Text	99	Alphanumeric Value Alphanumeric Code Alphanumeric Text	Result value Error Flags or Codes Free flowing text



ASTM	Field Name	Max Length	Field Contents	Field Description
11.1.5	Comment Type	1	G I	Generic/Free text comment Instrument Flag Comment

Examples of Comment Record:

C|1|I|^INST QC: OK     CHEM QC: OK|G<CR>

C|2|I|^HEM: 181 LIP: 301 ICT: 12|G<CR>

C|3|I|^@ CONFIRM LOW RECOVERIES @|G<CR>

C|4|I|^Unauthorized Operator|G<CR>

C|4|I|^Operator Renewal Required|G<CR>

C|5|I|^Control Renewal Required|G<CR>

C|1|I|^CHEMISTRY QC:             0|G<CR>

C|2|I|^ACCEPTABLE MINIMUM:     50|G<CR>

C|1|I|42BF 0000^0E00 0000^Hemolysis Limit Error|I<CR>

C|1|I|3F66 6666^0600 0000^Lipemic Limit Error|I<CR>

C|1|I|42CD 22B7^0000 0001^Chemistry Specific Error|I<CR>

C|1|I|461C 4000^0008 0000^Concentration > High System Limit|I<CR>

C|1|I|41CC 0000^0020 0080^False Rate (Unexpected Reaction Occurred)|I<CR>

C|1|I|41DE 6666^0000 0200^@ CONFIRM LOW RECOVERIES @|I<CR>

C|1|I|^0000 0002^Run Count¥^0000 0002^Abort Count|I<CR>

C|5|I|^0000 0000^Empty Cuvette Flags¥^0000 0000^Distribution Check Flags|I<CR>

C|7|I|^4055^BARCODE ERROR|I<CR>

Table 6: Message Terminator Record: Analyzer to ASTM Test Tool

ASTM	Field Name	Max Length	Field Contents	Field Description
13.1.1	Record Type ID	1	L	Comment, Upper Case Only
13.1.2	Sequence Number	5	1 to 65535	A sequence number consistent with sequence number rules. [always 1]
13.1.3	Termination Code	1	N I F	Normal termination No information available for last query Last request for information processed

Examples of Message Terminator Record:

L|1|N<CR>

L|1|F<CR>

L|1|I<CR>