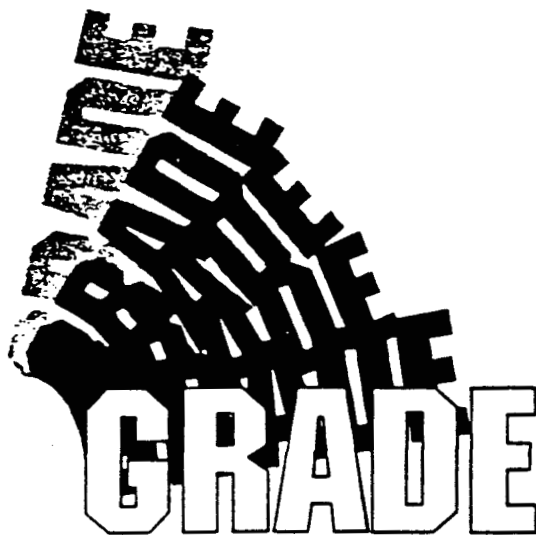




**GAS REVENUE ACCOUNTING
DATA EXCHANGE**

**GRADE
USER MANUAL**

GRADE USER MANUAL

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Gas Revenue Accounting Data Exchange (GRADE)

1.0 Statement of Purpose and Industry Use

Purpose

- Electronic exchange of gas accounting information among natural gas producers, purchasers, transporters, plant owners, plant operators, field operators and working interest owners in a standardized fixed record format.

Benefits

- Early receipt of data.
- Reduction of manual effort.
- Improvement in the accuracy of data.

History

- GRADE development committee was formed in 1985 by representatives of twelve companies.

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5.0 GRADE RECORD FORMATS

Six record formats are currently defined for use within the GRADE system:

- Metered Gas Volume Record - Type 1
- Allocated Gas Volume Record - Type 2
- Gas Test Data - Component Percents - Type 3
- Gas Test Data - Component Gallons per MCF - Type 4
- Plant Liquids Lease Settlement - Type 5
- Nonprocessed/Residue Gas Settlement - Type 6
- Transmission Summary Record - Type 9

A description of each record, field requirements, and a settings are included on the following pages. It should be noted that:

1. Numeric fields will be right-justified with leading zeros. They should be filed with zeros or blanks when not used. Blanks are interpreted as zeros. They are not converted.
2. Signed numeric field must have either a plus (+) or minus (-) sign in the first (left-most) position of the field.
3. Alpha-numeric fields will be left-justified with trailing blanks. They should be filled with blanks when not used.
4. All decimal points are implied. They are not to be inserted into the GRADE records.
5. The implied decimal in the Type 1 and 2 volume fields should be ignored when summing for the Transmission Summary Record.

When records are received, the Julian date of the transmittal will be in columns 130-132. This should be used as a reference only.

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5.1 METERED GAS VOLUME RECORD - TYPE 1

Item	Length	Name	Description										
1	1	RECORD TYPE	A numeric code used to identify and separate different GRADE formats. (1 for TYPE 1 Records)										
2	5	COMPANY CODE	An alpha-numeric field used to identify sending/receiving companies. Each company designation will consist of a 3 char. alpha code and an optional 2 digit sub-code for internal routing (zero-filled if not used). Contact GRADE chairperson for a list of validated company codes.										
3	10	BLANK	Reserved for future use.										
4	18	METER ID	An alpha-numeric ID for the meter.										
5	4	PRODUCTION DATE	Year and month of production in the form YYMM.										
6	2	PRODUCT CODE	A numeric code which identifies the product. The available product codes are identified in Section 6.1.										
7	2	TRANSACTION CODE	A numeric code which describes the reported volume. The available codes are identified in Section 6.2.										
8	1	PRODUCT UNIT CODE	A numeric code which describes the unit of measurement of the gas. <table><tr><th>Code</th><th>Product Unit</th></tr><tr><td>1</td><td>MCF</td></tr><tr><td>2</td><td>MMBTU (Decatherm)</td></tr></table>	Code	Product Unit	1	MCF	2	MMBTU (Decatherm)				
Code	Product Unit												
1	MCF												
2	MMBTU (Decatherm)												
9	12	VOLUME	Quantity of the product. A signed numeric integer field in the form +/-XXXXXXXXXX (no decimal).										
10	1	PBC-VOLUME	A numeric code which describes the Pressure Base for the Volume. This field is required for MMBTU volumes (Product Unit Code = 2). <table><tr><th>Code</th><th>Pressure Base</th></tr><tr><td>0</td><td>Not Used</td></tr><tr><td>1</td><td>14.65</td></tr><tr><td>2</td><td>14.73</td></tr><tr><td>3</td><td>15.025</td></tr></table>	Code	Pressure Base	0	Not Used	1	14.65	2	14.73	3	15.025
Code	Pressure Base												
0	Not Used												
1	14.65												
2	14.73												
3	15.025												

GRADE Record Formats

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Item	Length	Name	Description										
11	7	BTU FACTOR	BTU Factor of the Gas. A numeric field in the form X.XXXXXX (implied decimal). This field is required (non-zero) for MMBTU volumes, blank for MCF volumes.										
12	1	PBC-BTU FACTOR	A numeric code which describes the Pressure Base for the BTU Factor. This field is required for MMBTU volumes. (Same codes as for PBC-VOLUME)										
13	1	BTU TYPE	A one character code which identifies the status of the BTU. This field is required ("N" is not valid) for the MMBTU volumes. <table><tr><th>Code</th><th>Pressure Base</th></tr><tr><td>N</td><td>Not Used</td></tr><tr><td>W</td><td>Wet - Fully Saturated</td></tr><tr><td>D</td><td>Dry - Unadjusted, as computed by chromatographic analysis</td></tr><tr><td>A</td><td>As Delivered - dry adjusted for moisture content determined from pressure and temperature at delivery point</td></tr></table>	Code	Pressure Base	N	Not Used	W	Wet - Fully Saturated	D	Dry - Unadjusted, as computed by chromatographic analysis	A	As Delivered - dry adjusted for moisture content determined from pressure and temperature at delivery point
Code	Pressure Base												
N	Not Used												
W	Wet - Fully Saturated												
D	Dry - Unadjusted, as computed by chromatographic analysis												
A	As Delivered - dry adjusted for moisture content determined from pressure and temperature at delivery point												
14	9	UNIT PRICE	A numeric field which identifies the unit price of the product in the form XX.XXXXXXX (implied decimal).										
15	5	PRESSURE	A numeric field which identifies the average pressure (PSIA) in the form XXXX.X (implied decimal). This field should be blank if it is not used.										
16	4	TEMPERATURE	A signed numeric field which identifies average flowing temperature (degrees F) in the form +/-XXX. This field should be blank if it is not used.										
17	3	BLANK	Reserved for future use.										
18	4	FLOW HOURS	A numeric field which identifies flow hours, in the form XXX.X (implied decimal). This field should be blank if it is not used. For example: 0065 would be interpreted as 6 hours and 30 minutes.										
19	1	ADJUSTMENT INDICATOR	A one character code which identifies the type of adjustment being made. This field should be blank if not used. <table><tr><th>Code</th><th>Indicator</th></tr><tr><td>N</td><td>Net Adjustment</td></tr><tr><td>V</td><td>Override Adjustment; Rebook</td></tr><tr><td>R</td><td>Reversal</td></tr></table>	Code	Indicator	N	Net Adjustment	V	Override Adjustment; Rebook	R	Reversal		
Code	Indicator												
N	Net Adjustment												
V	Override Adjustment; Rebook												
R	Reversal												

GRADE Record Formats

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Item	Length	Name	Description
20	2	BEGINNING PRODUCTION DAY	A numeric field which contains the beginning day of production in the form DD. This field should be blank or zero for full month production.
21	2	ENDING PRODUCTION	A numeric field which contains the ending day of production in the form DD. This field should be blank or zero for full month production.
22	28	BLANK	Blank, reserved for future use.
23	3	SENDER'S CODE	An alpha-numeric field used to identify sending companies.
24	2	ADJUSTMENT REASON CODE	A two character code which identifies the reason for the adjustment. A list of the valid adjustment reason codes is located in Section 6.5.
25	1	BLANK	Reserved for future use.
26	3	TRANSMISSION DATE	A numeric field that identifies the Julian date when the data was distributed to the receiver. It should be zero filled or left blank by the transmitting company.
----- 132			TOTAL RECORD LENGTH

LEASE METERED VOLUME

R/T	Company Code		Meter Identification	Prod Date	Prod Code	Trans Code	Prod Unit	Volume	PBC	BTU Factor	PBC BTU	BTU Type
(1)	(2-6)	(7-16)	(17-34)	(35-38)	(39-40)	(41-42)	(43)	(44-55)	(56)	(57-63)	(64)	(65)
- 1	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-

2

										Days of Production			
Unit Price	Pressure	Temp	Flow Hours	Adj Ind	Begin D D	End D D		Sender ID	Adj. Reason		Trans Date		
(68-74)	(76-79)	(80-83)	(84-86)	(87-90)	(91)	(92-93)	(94-95)	(96-123)	(124-126)	(127-128)	(129)	(130-132)	
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-

GRADE Record Formats



Documents
Document Sharing Hub

GRADE USER MANUAL

5.2 ALLOCATED GAS VOLUME RECORD - TYPE 2

Item	Length	Name	Description										
1	1	RECORD TYPE	A numeric code used to identify and separate different GRADE formats. (2 for TYPE 2 Records)										
2	5	COMPANY CODE	An alpha-numeric field used to identify sending/receiving companies. (Same as for TYPE 1 records)										
3	10	BLANK	Reserved for future use.										
4	18	PROPERTY ID	An alpha-numeric ID for the meter, lease, plant or completion.										
5	4	PRODUCTION DATE	Year and month of production in the form YYMM.										
6	2	PRODUCT CODE	A numeric code which identifies the product (Refer to Section 6.1).										
7	2	TRANSACTION CODE	A numeric code which describes the reported volume (Refer to Section 6.2)										
8	1	PRODUCT UNIT CODE	A numeric code which describes the unit of measurement of the gas. <table><tr><th>Code</th><th>Product Unit</th></tr><tr><td>1</td><td>MCF</td></tr><tr><td>2</td><td>MMBTU (Decatherm)</td></tr></table>	Code	Product Unit	1	MCF	2	MMBTU (Decatherm)				
Code	Product Unit												
1	MCF												
2	MMBTU (Decatherm)												
9	12	ALLOCATED VOLUME	Quantity of the receiver's (owners) gas sold to the purchaser identified in Field 18 -or- the quantity of gas purchased by the receiver (purchaser) from the interest owner identified in Field 18. A signed numeric integer field in the form +/-XXXXXXXXXX (no decimal).										
10	1	PBC-VOLUME	A numeric code which describes the Pressure Base for the Volume. This field is required for MMBTU volumes (Product Unit Code = 2). <table><tr><th>Code</th><th>Pressure Base</th></tr><tr><td>0</td><td>Not Used</td></tr><tr><td>1</td><td>14.65</td></tr><tr><td>2</td><td>14.73</td></tr><tr><td>3</td><td>15.025</td></tr></table>	Code	Pressure Base	0	Not Used	1	14.65	2	14.73	3	15.025
Code	Pressure Base												
0	Not Used												
1	14.65												
2	14.73												
3	15.025												

GRADE Record Formats

Item	Length	Name	Description										
11	7	BTU-FACTOR	BTU Factor of the Gas. A numeric field in the form X.XXXXXX (implied decimal). This item is required with MMBTU volumes.										
12	1	PBC-BTU FACTOR	A numeric code which describes the Pressure Base for the BTU Factor. This item is required with MMBTU volumes. (Same codes as for PBC-VOLUME).										
13	1	BTU TYPE	A one character code which identifies the status of the BTU. This item is required ("N" is not valid) with MMBTU volumes. <table><tr><th>Code</th><th>Pressure Base</th></tr><tr><td>N</td><td>Net Used</td></tr><tr><td>W</td><td>Wet - Fully Saturated</td></tr><tr><td>D</td><td>Dry - Unadjusted, as computed by chromatographic analysis</td></tr><tr><td>A</td><td>As delivered - dry adjusted for moisture content determined from pressure and temperature at delivery point</td></tr></table>	Code	Pressure Base	N	Net Used	W	Wet - Fully Saturated	D	Dry - Unadjusted, as computed by chromatographic analysis	A	As delivered - dry adjusted for moisture content determined from pressure and temperature at delivery point
Code	Pressure Base												
N	Net Used												
W	Wet - Fully Saturated												
D	Dry - Unadjusted, as computed by chromatographic analysis												
A	As delivered - dry adjusted for moisture content determined from pressure and temperature at delivery point												
14	9	UNIT PRICE	A numeric field which identifies the unit base price of the product before any and all adjustments in the form XX.XXXXXXX (implied decimal).										
15	6	PRICE CATEGORY CODE	An alpha-numeric field in which the first 3 places identify the section number and the last three the subsection (i.e. NGPA 102-109). Refer to Section 6.3 for a list. This field should be blank when not used and is not validated.										
16	1	ADJUSTMENT INDICATOR	A one character code which identifies the type of adjustment being made. This field should be blank if not used. <table><tr><th>Code</th><th>Indicator</th></tr><tr><td>N</td><td>Net Adjustment</td></tr><tr><td>V</td><td>Override Adjustment; Rebook</td></tr><tr><td>R</td><td>Reversal</td></tr></table>	Code	Indicator	N	Net Adjustment	V	Override Adjustment; Rebook	R	Reversal		
Code	Indicator												
N	Net Adjustment												
V	Override Adjustment; Rebook												
R	Reversal												

Item	Length	Name	Description										
17	1	INTEREST OWNER/ PURCHASER KEY	An alpha-numeric character to define the information in item 18. This item should be blank when not used.										
			<table><tr><th>Code</th><th>Identification</th></tr><tr><td>0</td><td>Working Interest Owner</td></tr><tr><td>P</td><td>Purchaser</td></tr><tr><td>S</td><td>Shipper</td></tr><tr><td>X</td><td>Operator</td></tr></table>	Code	Identification	0	Working Interest Owner	P	Purchaser	S	Shipper	X	Operator
Code	Identification												
0	Working Interest Owner												
P	Purchaser												
S	Shipper												
X	Operator												
18	12	INTEREST OWNER/ PURCHASER ID	An alpha-numeric field which contains either the working interest or purchaser identification. For example: If the receiver is working interest owner in the property, this item will contain the purchaser's ID. If the receiver is the purchaser, this field will contain the interest owner or seller ID. Blanks are valid.										
19	11	CONTRACT	An optional alpha-numeric field which contains the seller's contract data.										
20	12	ENTITLEMENT VOLUME	A signed integer field in the form +/-XXXXXXXXXX. This quantity represents the working interest owner's entitlement volume.										
21	6	BLANK	Blank, reserved for future use.										
22	3	SENDER'S CODE	An alpha-numeric field used to identify sending companies.										
23	2	ADJUSTMENT REASON CODE	A two character code which identifies the reason for the adjustment. A list of the valid adjustment reason codes is located in Section 6.5										
24	1	BLANK	Reserved for future use.										
25	3	TRANSMISSION DATE	A numeric field that identifies the Julian date when the data was distributed to the receiver. It should be zero filled or left blank by the transmitting company.										
	132	TOTAL RECORD LENGTH											

ALLOCATED VOLUME

R/T	Company Code		Meter Identification	Prod Date	Prod Code	Tran Code	Prod Unit	Allocated Sales Volume	PBC	BTU Factor	PBC BTU	BTU Type
(1)	(2-6)	(7-16)	(17-34)	(35-38)	(39-40)	(41-42)	(43)	(44-55)	(56)	(57-63)	(64)	(65)
- 2	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-

Unit Price	Price Category	ADJ IND	OWN KEY	Interest Owner Purchaser Ident.	Contract	Interest Owner Volume		Sender's Code	Adjustment Reason	Trans Date
64 - 74	75 - 80	81	82	83 - 94	95 - 105	106 - 117	118 - 123	124 - 126	127 - 128	129 - 132
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-

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5.3 GAS TEST DATA - COMPONENT PERCENTS - TYPE 3

Item	Length	Name	Description
1	1	RECORD TYPE	A numeric code used to identify and separate different GRADE formats. (3 for TYPE 3 Records)
2	5	COMPANY CODE	An alpha-numeric field used to identify sending/receiving companies. (Same as for TYPE 1 records)
3	18	PROPERTY ID	An alpha-numeric ID for the meter, associated with either a lease or plant. This field cannot be blank or zero.
4	6	PRODUCTION EFFECTIVE DATE	Year, month, and day of production in the form YYMMDD, to which this data first applies.
5	1	COMPONENT % TYPE	An alpha-numeric code used to identify the component percents. Code Type
			M Molecular Percents (Mol%) V Volume Percents (Vol%) W Weight Percents
6	60	COMPONENT DATA ARRAY	A positional array of fifteen (15) gas component normalized percents in the form XX.XX (implied decimal). The 15 data elements must total to 100%. Each position in the data array identifies a specific component and should be zero filled if not used. (1) Helium (2) Oxygen (3) Carbon Dioxide (4) Nitrogen (5) Hydrogen (6) Hydrogen Sulfide (7) Methane (8) Ethane (9) Propane (10) Iso-Butane (11) Norm-Butane (12) Iso-Pentane (13) Norm-Pentane (14) Hexane (plus) (15) Heptane (plus)