Contents

Form No.
GWS-25

OFFICE OF THE STATE ENGINEER
COLORADO DIVISION OF WATER RESOURCES

818 Centennial Bldg., 1313 Sherman St., Denver, Colorado 80203
(303) 866-3581

DSS 14

1354

WELL PERMIT NUMBER 255169 - - -
DIV. 8 WD 1 DES. BASIN 5 MD 9

APPLICANT

COLORADO WATER CONSERVATION BOARD
C/O USGS/DENVER FEDERAL CTR
MS415 PO BOX 25046
LAKEWOOD, CO 80225-

(303) 236-4882

APPROVED WELL LOCATION
ADAMS COUNTY
NW 1/4 NE 1/4 Section 11
Township 3 S Range 64 W Sixth P.M.

DISTANCES FROM SECTION LINES
150 Ft. from North Section Line
2470 Ft. from East Section Line

UTM COORDINATES
Northing: Easting:

PERMIT TO USE AN EXISTING WELL

CONDITIONS OF APPROVAL

1) This well shall be used in such a way as to cause no material injury to existing water rights. The issuance of this permit does not ensure that no injury will occur to another vested water right or preclude another owner of a vested water right from seeking relief in a civil court action.
2) The construction of this well shall be in compliance with the Water Well Construction Rules 2 CCR 402-2, unless approval of a variance has been granted by the State Board of Examiners of Water Well Construction and Pump Installation Contractors in accordance with Rule 18.
3) Approved pursuant to CRS 37-90-105(1)(d). Use of this well is limited to monitoring water levels and/or water quality sampling.
4) This well must be equipped with a locking cap or seal to prevent well contamination or possible hazards as an open well. The well must be kept capped and locked at all times except during sampling or measuring.
5) Sampling is limited to the alluvium of Lost Creek or its tributaries. The depth of this well shall not exceed 59 feet or the depth at which sandstone or shale is first encountered, whichever comes first.
6) Records of any water level measurements and water quality analyses shall be maintained by the well owner and submitted to the Lost Creek Ground Water Management District and the Division of Water Resources upon request.
7) Upon conclusion of the monitoring program the well owner shall plug this well in accordance with Rule 16 of the Water Well Construction Rules. A Well Abandonment Report must be completed and submitted to the Division of Water Resources within 60 days of plugging.
8) The owner shall mark the well in a conspicuous place with well permit number(s) and name of aquifer as appropriate, and shall take necessary means and precautions to preserve these markings.
9) This well must be constructed within 300 feet of the location specified on this permit.
10) This well must have been constructed by or under the supervision of a licensed well driller or other authorized individual according to the Water Well Construction Rules.
11) A Well Construction and Test Report (Form GWS-31), including lithologic log must be submitted by the individual authorized to construct the well. For non-standard construction, the report must include an as-built drawing showing details such as depth, casing, perforated zones, and a description of the grouting type and interval.

NOTE: Monitoring hole notice no. MH-42777 was acknowledged on October 30, 2003, for construction of this well. The owner has assigned this well identification no. DSS-14.

RECORD OF WELL COMPLETION

START WELL COMPLETION: DATE 11 / 03 / 2003 TIME 08:00

FINISH WELL COMPLETION: DATE 11 / 04 / 2003 TIME 10:45

COMPLETION ELEMENT	COMPLETION MATERIALS	AMOUNT (by weight or volume)	FROM (feet or meters)	TO (feet or meters)	TOTAL LENGTH (feet or meters)
PRIMARY FILTER PACK	10-20 ColoSprgs Silica Sand	14x50lb bags	44.5	59.5	15.0
SECONDARY FILTER PACK	none				
ANNULAR SEALS	1/4" coated bentonite pellets	2x50lb pails	40.4	44.5	4.10
	Bentonite grout	4x50lb bag	3.0	40.4	37.4
SURFACE SEAL	Quickcrete Concrete	7x80lb bag	0.0	3.0	3.0
WELL PROTECTOR	6" steel surface casing		-2.0	3.0	5.0

COMMENTS: Measurements are in feet below land surface.
Well completed by J. Beck.

Figure 16. *Example of a form to record well completion.*

RECORD OF WELL COMPLETION: WELL-COMPLETION DIAGRAM (Single-well site)

SITE ID 394838104310002 STATION NAME

OTHER ID DSS14

7.5' QUAD COUNTY Adams STATE CO

OWNER CWCB DRILLER USGS

Units used (circle one): (feet) / meters / other

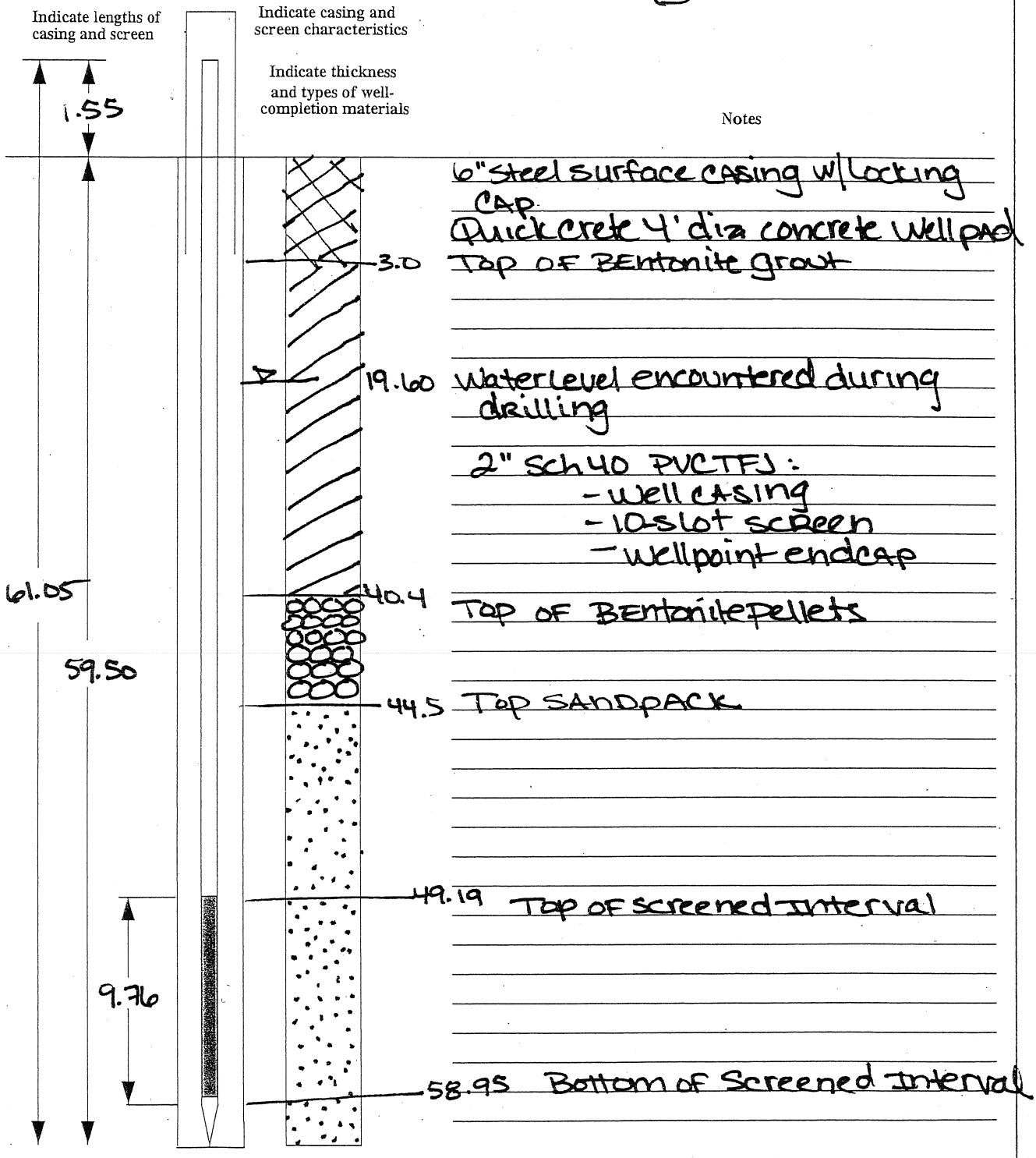


Figure 16. *Example of a form to record well completion--Continued.*

Borehole Log

Site ID 394838104310002
Date(s) Drilled 11/3/03 - 11/4/03
Coordinates N39°48'38.5, W104°31'00.9"
Drilling Co. and Driller USGS
Drilling method CME85 HollowStemAuger
Borehole Diameter 9"
Logged by JBECK

Borehole No. DSS-14
Pages 1 of 3
Ground Surface Elevation 5180
Total Depth 59.50' BLS
Depth to Water 19.6' BLS
Static Water Depth 18.63

Comments

Depth (ft bls)	Sample type and recovery	Lithologic Description: Color (GSA chart)	Lithologic Description: Grain size %, sorting, roundness, mineral composition %, consolidation (none, poor, well), and moisture content (dry, damp, moist, wet)	Other characteristics and drilling comments
3-5	cuttings	10YR5/4	moderate yellowish brown dry, silt	unconsolidated
5-7	cuttings	10YR5/4	mod. yellowish brown med-coarse Alluvial sand, unconsolidated. poorly sorted.	
9-12'	cuttings	10YR5/4	moderate yellowish brown coarse sand & Fine gravel. damp. unconsolidated. Coarse gravel layer around 10-10.5' BLS.	
12-14	cuttings	5YR3/4	moderate brown coarse sand to gravel slightly coarser than 9-12' cuttings unconsolidated, moist.	
15-17	cuttings	10YR4/2	Dark yellowish brown moist clayey sand & gravel, unconsolidated. Clayey zone at approx. 15' BLS.	
18.5-23.5	core		2.0/2.0' RECOVERED	
18.5-18.8	core	10YR5/4 10YR6/2	moderate yellowish brown to pale yellowish brown clayey fine grained sand, wet, poorly consolidated Fe-stained throughout	
18.8-19.2	core	10YR5/4	moderate yellowish brown medium-coarse sand, unconsolidated, wet, Fe-stained	
19.2-20.0	core	5YR5/6 10YR6/2	Light brown to pale yellowish brown Alluvial sandy clay w/ Fe concretions ~2mm in diameter? very fine sand unconsolidated-mod. consolidation wet. mica flakes visible	

Borehole Log

Site ID _____
Date(s) Drilled _____
Coordinates _____
Drilling Co. and Driller _____
Drilling method _____
Borehole Diameter _____
Logged by _____

Borehole No. DSS-14
Pages 2 of 3
Ground Surface Elevation _____
Total Depth _____
Depth to Water _____
Static Water Depth _____

Comments _____

Depth (ft bls)	Sample type and recovery	Lithologic Description: Color (GSA chart)	Lithologic Description: Grain size %, sorting, roundness, mineral composition %, consolidation (none, poor, well), and moisture content (dry, damp, moist, wet)	Other characteristics and drilling comments
20.0-20.5	core	10YR6/6	Dark yellowish brown orange wet medium grained sand. Quartz & Feldspar rich, unconsolidated. Fe-stained	
23.5-27.5	core		3.0/4.0' RECOVERED	
23.5-24.3	core	10YR5/4	moderate yellowish brown wet coarse sand & gravel, poorly sorted, angular unconsolidated, Feldspar ~30% Qtz 60%, lithic fragments 10%	
24.3-25.5	core	10YR5/4	moderate yellowish brown wet sandy clay. sand = 40% of total sample composition, Fine-grained, well-rounded well sorted Qtz 70%, Feldspar 15% Lithic Fragments 15%	
27.5-31.0	core		3.5/3.5' RECOVERED	
27.5-31.0	core	10YR6/6	Dark yellowish orange Clayey sandstone, uniform texture, wet moderately consolidated, Fine grained. Fe-concretions, Qtz 65% Feldspar 15% Lithic Frag. 20% silty near 31.0' BLS	
36-37'	cuttings	10YR6/6	dark yellowish orange wet sand. well-consolidated. Fine grained	
41-43'	cuttings	10YR6/6	dark yellowish orange wet sand. well consolidated fine grained	
43.5-47.5	core		2.5-4.0' RECOVERED	

Borehole Log

Site ID _____
Date(s) Drilled _____
Coordinates _____
Drilling Co. and Driller _____
Drilling method _____
Borehole Diameter _____
Logged by _____

Borehole No. DSS-14
Pages 3 of 3
Ground Surface Elevation _____
Total Depth _____
Depth to Water _____
Static Water Depth _____

Comments _____

Depth (ft bls)	Sample type and recovery	Lithologic Description: Color (GSA chart)	Lithologic Description: Grain size %, sorting, roundness, mineral composition %, consolidation (none, poor, well), and moisture content (dry, damp, moist, wet)	Other characteristics and drilling comments
43.5-46.0	core	N7	Light gray damp to moist sandstone zones of Fe-staining. med-grained well sorted, well rounded. mod-well consolidated. Qtz 60%, Feldspar 15% Lithic fragments 25%	
47.5-51.5	core		4.0/4.0' RECOVERED	
47.5-51.5	core	N7	Light gray damp to moist SANDSTONE. Fe-concretions, uniform texture. Med-grained, well sorted, well rounded Lithic Frag. 25%, Qtz 60%, Feldspar 15%	
51.5-54.5	core		2.5/3.0' RECOVERED	
51.5-54.0	core	N7	Light gray damp sandstone. SAME description AS in 47.5-51.5 Interval.	
54.5-57.0	core		2.5/2.5' RECOVERED	
54.5-57.0	core	N7 10YR 6/6	Light gray AND Dark yellowish orange damp sandstone. highly Fe-stained uniform texture, med-grained, well-sorted, well-rounded. Qtz 60% Feldspar 15% Lithic Frag 25%	
58.5-62.5	core		4.0/4.0' RECOVERED	
58.5-59.2	core	N7 10YR 6/6	Light gray and Dark yellowish orange moist sandstone	
59.2-62.5	core	5B5/1	medium bluish gray dry claystone weathered. Organic material abundant from 59.2'-59.7'	

Form No.
GWS-25

OFFICE OF THE STATE ENGINEER
COLORADO DIVISION OF WATER RESOURCES

818 Centennial Bldg., 1313 Sherman St., Denver, Colorado 80203
(303) 866-3581

1354

WELL PERMIT NUMBER 255168 - -
DIV. 8 WD 1 DES. BASIN 5 MD 9

APPLICANT

COLORADO WATER CONSERVATION BOARD
USGS/DENVER FEDERAL CTR
MS 415 PO BOX 25046
LAKEWOOD, CO 80225-

(303) 236-4882

APPROVED WELL LOCATION
ADAMS COUNTY
SE 1/4 SW 1/4 Section 10
Township 2 S. Range 63 W. Sixth P.M.

DISTANCES FROM SECTION LINES
10 Ft. from South Section Line
1845 Ft. from West Section Line

UTM COORDINATES
Northing: Easting:

PERMIT TO USE AN EXISTING WELL

CONDITIONS OF APPROVAL

1) This well shall be used in such a way as to cause no material injury to existing water rights. The issuance of this permit does not ensure that no injury will occur to another vested water right or preclude another owner of a vested water right from seeking relief in a civil court action.
2) The construction of this well shall be in compliance with the Water Well Construction Rules 2 CCR 402-2, unless approval of a variance has been granted by the State Board of Examiners of Water Well Construction and Pump Installation Contractors in accordance with Rule 18.
3) Approved pursuant to CRS 37-90-105(1)(d). Use of this well is limited to monitoring water levels and/or water quality sampling.
4) This well must be equipped with a locking cap or seal to prevent well contamination or possible hazards as an open well. The well must be kept capped and locked at all times except during sampling or measuring.
5) Sampling is limited to the alluvium of Lost Creek or its tributaries. The depth of this well shall not exceed 113 feet or the depth at which sandstone or shale is first encountered, whichever comes first.
6) Records of any water level measurements and water quality analyses shall be maintained by the well owner and submitted to the Lost Creek Ground Water Management District and the Division of Water Resources upon request.
7) Upon conclusion of the monitoring program the well owner shall plug this well in accordance with Rule 16 of the Water Well Construction Rules. A Well Abandonment Report must be completed and submitted to the Division of Water Resources within 60 days of plugging.
8) The owner shall mark the well in a conspicuous place with well permit number(s) and name of aquifer as appropriate, and shall take necessary means and precautions to preserve these markings.
9) This well must be constructed within 300 feet of the location specified on this permit.
10) This well must have been constructed by or under the supervision of a licensed well driller or other authorized individual according to the Water Well Construction Rules.
11) A Well Construction and Test Report (Form GWS-31), including lithologic log must be submitted by the individual authorized to construct the well. For non-standard construction, the report must include an as-built drawing showing details such as depth, casing, perforated zones, and a description of the grouting type and interval.

NOTE: Monitoring hole notice no. MH-42778 was acknowledged on October 30, 2003, for construction of this well. The owner has assigned this well identification no. DSS-15.

DSS-15

RECORD OF WELL COMPLETION

START WELL COMPLETION: DATE 11 / 04 / 2003 TIME 11:30

FINISH WELL COMPLETION: DATE 11 / 06 / 2003 TIME 10:30

COMPLETION ELEMENT	COMPLETION MATERIALS	AMOUNT (by weight or volume)	FROM (feet or meters)	TO (feet or meters)	TOTAL LENGTH (feet or meters)
PRIMARY FILTER PACK	10-20 cosprgs				
	silica sand	7x50lb bags	97.0	112.7	15.70
SECONDARY FILTER PACK	none				
ANNULAR SEALS	1/4" coated				
	Bentonite Pellets	1-50lb pail	95.0	97.0	2.0
	Bentonite grout	6x50lb bags	2.0	95.0	93.0
SURFACE SEAL	Quickcrete	7x80lb bags	0.0	2.0	2.0
WELL PROTECTOR	6" steel surface		-2.5	2.5	5.0
	casing				

COMMENTS:

Measurements in feet below land surface
Well completed by J. Bock.

Figure 16. *Example of a form to record well completion.*

RECORD OF WELL COMPLETION: WELL-COMPLETION DIAGRAM (Single-well site)

SITE ID 395259104253401 STATION NAME
OTHER ID DSS-15
7.5' QUAD
OWNER CWCB COUNTY Adams STATE CO
DRILLER USGS
Units used (circle one): (feet) meters / other

Indicate lengths of casing and screen

Indicate casing and screen characteristics

Indicate thickness and types of well-completion materials

Notes

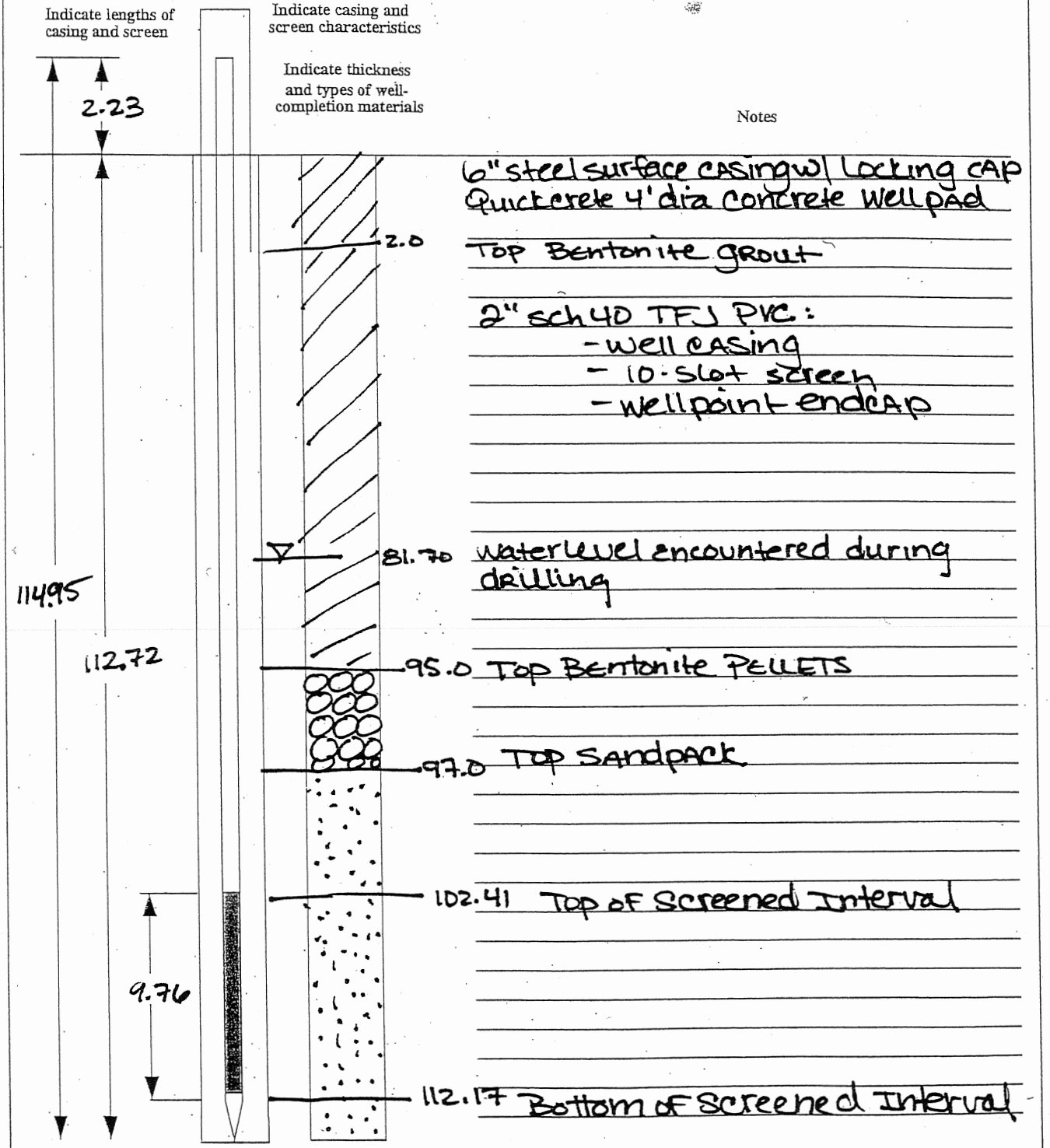


Figure 16. *Example of a form to record well completion--Continued.*

Borehole Log

Site ID 395259104253401
Date(s) Drilled 11/4/03 , 11/5/03
Coordinates N39°52'59.6" W104°25'34.0"
Drilling Co. and Driller USGS
Drilling method CME 85 Hollow Stem Auger
Borehole Diameter 9"
Logged by JBECIC

Borehole No. DSS-15
Pages 1 of 4
Ground Surface Elevation 5217
Total Depth 112.72
Depth to Water 81.7' BLS
Static Water Depth ~~80.9~~ 78.67' BLS

Comments

Depth (ft bls)	Sample type and recovery	Lithologic Description: Color (GSA chart)	Lithologic Description: Grain size %, sorting, roundness, mineral composition %, consolidation (none, poor, well), and moisture content (dry, damp, moist, wet)	Other characteristics and drilling comments
2-3'	cuttings	10YR6/6 10YR5/4	Dark yellowish orange to moderate yellowish brown; medium to coarse to very coarse grained. poorly sorted 10% - very coarse grains (0.5-1mm) sand. subangular. dry, unconsolidated Feldspar 15% Qtz 80%	
5-8	cuttings	10YR6/6 10YR5/4	Dark yellowish orange to mod. yellowish brown dry sand. medium to very coarse grained. unconsolidated	
10-12'	cuttings	10YR6/6 10YR5/4	SAME AS DESCRIBED in 5-8' Interval	
16-18	cuttings	10YR6/6 10YR5/4	Dark yellowish orange to moderate yellowish brown med - very coarse (1mm) grained damp sand. unconsolidated poorly sorted; subangular Qtz 80%, K-feldspar 15%	
18.5-22.5	core		3.0/4.0' RECOVERED	
18.5-21.5	core	10YR6/6	Dark yellowish Orange damp to moist sand. med-to coarse-grained Qtz 85%, K-FELDSPAR 10% poorly consolidated. Mod-to poorly sorted, sub-Angular. general Fining upwards	
25-27	cuttings	10YR5/4 10YR6/6	moderate yellowish brown to dark yellowish orange damp clayey sand.	
32-33'	cuttings	10YR6/6	Dark yellowish orange damp to moist Clayey sand. sand = coarse to very coarse (1.5-2.0 cm) sub-angular	

Borehole Log

Site ID _____ Borehole No. DSS-15

Date(s) Drilled _____ Pages 2 of 4

Coordinates _____ Ground Surface Elevation _____

Drilling Co. and Driller _____ Total Depth _____

Drilling method _____ Depth to Water _____

Borehole Diameter _____ Static Water Depth _____

Logged by _____

Comments _____

Depth (ft bls)	Sample type and recovery	Lithologic Description: Color (GSA chart)	Lithologic Description: Grain size %, sorting, roundness, mineral composition %, consolidation (none, poor, well), and moisture content (dry, damp, moist, wet)	Other characteristics and drilling comments
32-33 (contd)			Poorly sorted, moderately consolidated 75% Qtz, 10% Feldspar, 5-10% clay minerals	
33.5-37.5	core		2.8/4.0' RECOVERED	
33.5-~~35.3~~ 36.3	core	10YR6/6	dark yellowish orange damp interbedded sand & clay. clay zones from 33.5-34.2 and 36.0 and 36.3 sand= coarse grained; subrounded poorly consolidated, moderately sorted 70-80% Qtz. 10% Feldspar, 5% Lithic Fragments.	
42-44	cuttings	10YR5/4	moderate yellowish brown damp clayey sand. clay minerals = 30-40% sand= med grained to coarse. mod-rounding, mod-sorting mod-consolidation. Qtz-rich	
47-49'	cuttings	10YR5/4	moderate yellowish brown damp clayey sand, same material as described in 42-44' interval.	
53-55	cuttings	10YR5/4	same material as described in 42-44' interval.	
62-63	cuttings	10YR6/6	Dark yellowish Orange Damp coarse sand. Poorly sorted, poorly consolidated Qtz 75%, Feldspar 10-15% sub-rounded.	
67-68	cuttings	10YR6/6	Dark yellowish Orange Moist sand coarse grained - clayey (clay minerals <5%) Poorly consolidated, mod. sorting, sub-rounded Qtz 80%, Feldspar 10%, Lithic Frag. 5%	

Borehole Log

Site ID
Date(s) Drilled
Coordinates
Drilling Co. and Driller
Drilling method
Borehole Diameter
Logged by

Borehole No. DSS-15
Pages 3 of 4
Ground Surface Elevation
Total Depth
Depth to Water
Static Water Depth

Comments

Depth (ft bls)	Sample type and recovery	Lithologic Description: Color (GSA chart)	Lithologic Description: Grain size %, sorting, roundness, mineral composition %, consolidation (none, poor, well), and moisture content (dry, damp, moist, wet)	Other characteristics and drilling comments
68.5-72.5	core		4 3.0/4.0' RECOVERED	
68.5-71.5	core	10YR 7/4 10YR 6/6	grayish orange to dark yellowish orange damp sand. coarse to very coarse (1cm) grained. sub-angular unconsolidated. 70% Qtz, 5-10% Feldspar 10% Lithic Fragments	
76-78	cuttings	10YR 7/4 10YR 6/6	grayish orange to dark yellowish ~~brown~~ orange damp sand. same composition and texture as described in 68.5-71.5' interval.	
82-83	cuttings	10YR 7/4 10YR 6/6	grayish orange to dark yellowish orange damp sand. same composition and texture as described in 68.5-71.5' Interval.	
83.5-83.7	core		0.2 RECOVERED	
83.5-83.7	core	10YR 6/2	pale yellowish brown wet sand and gravel. poorly consolidated. sub-rounded, poorly sorted 60-65% Qtz, 15-20% Feldspar, 10% Lithic fragments-	
88.5-93.5	Core		3.0/5.0' RECOVERED	
88.5-91.5	core	10YR 5/4	moderate yellowish brown sandy clay to clayey sand. moist to wet. generally fines upwards, sand= medium grained, mod-sorted, sub-angular Qtz.-rich,	
102-104	cuttings	10YR 5/4	moderate yellowish brown wet coarse sand.	

Borehole Log

Site ID _____
Date(s) Drilled _____
Coordinates _____
Drilling Co. and Driller _____
Drilling method _____
Borehole Diameter _____
Logged by _____

Borehole No. DSS-15
Pages 4 of 4
Ground Surface Elevation _____
Total Depth _____
Depth to Water _____
Static Water Depth _____

Comments _____

Depth (ft bls)	Sample type and recovery	Lithologic Description: Color (GSA chart)	Lithologic Description: Grain size %, sorting, roundness, mineral composition %, consolidation (none, poor, well), and moisture content (dry, damp, moist, wet)	Other characteristics and drilling comments
107-109	cuttings	10YR5/4	moderate yellowish brown wet sand, coarse grained, sub-Angular Fluidized (unable to take core sample) Qtz-rich	

Form No.
GWS-25

OFFICE OF THE STATE ENGINEER
COLORADO DIVISION OF WATER RESOURCES

818 Centennial Bldg., 1313 Sherman St., Denver, Colorado 80203
(303) 866-3581

1354

WELL PERMIT NUMBER 249300 - - -
DIV. 8 WD 1 DES. BASIN 5 MD 9

APPLICANT

US GEOLOGICAL SURVEY
DENVER FEDERAL CENTER
PO BOX 25046 MS 415
LAKEWOOD, CO 80215-

(303) 236-4882

APPROVED WELL LOCATION
ADAMS COUNTY
SE 1/4 SW 1/4 Section 10
Township 2 S Range 63 W Sixth P.M.

DISTANCES FROM SECTION LINES
100 Ft. from South Section Line
2120 Ft. from West Section Line

UTM COORDINATES
Northing: Easting:

PERMIT TO USE AN EXISTING WELL

CONDITIONS OF APPROVAL

1) This well shall be used in such a way as to cause no material injury to existing water rights. The issuance of this permit does not assure the applicant that no injury will occur to another vested water right or preclude another owner of a vested water right from seeking relief in a civil court action.
2) The construction of this well shall be in compliance with the Water Well Construction Rules 2 CCR 402-2, unless approval of a variance has been granted by the State Board of Examiners of Water Well Construction and Pump Installation Contractors in accordance with Rule 18.
3) Approved pursuant to CRS 37-90-105(1)(d). Use of this well is limited to monitoring water levels and/or water quality sampling.
4) This well must be equipped with a locking cap or seal to prevent well contamination or possible hazards as an open well. The well must be kept capped and locked at all times except during sampling or measuring.
5) Sampling is limited to the alluvium of Lost Creek or its tributaries. The depth of this well shall not exceed 94 feet or the depth at which sandstone or shale is first encountered, whichever comes first.
6) Records of any water level measurements and water quality analyses shall be maintained by the well owner and submitted to the Lost Creek Ground Water Management District and the Division of Water Resources upon request.
7) Upon conclusion of the monitoring program the well owner shall plug this well in accordance with Rule 16 of the Water Well Construction Rules. A Well Abandonment Report must be completed and submitted to the Division of Water Resources within 60 days of plugging.
8) The owner shall mark the well in a conspicuous place with well permit number(s) and name of aquifer as appropriate, and shall take necessary means and precautions to preserve these markings.
9) This well must be constructed within 300 feet of the location specified on this permit.
10) This well must have been constructed by or under the supervision of a licensed well driller or other authorized individual according to the Water Well Construction Rules.
11) A Well Construction and Test Report (Form GWS-31), including lithologic log must be submitted by the individual authorized to construct the well. For non-standard construction, the report must include an as-built drawing showing details such as depth, casing, perforated zones, and a description of the grouting type and interval.

NOTE: Monitoring hole notice no. MH-41856, was acknowledged on March 4, 2003, for construction of this well. The owner has assigned this well identification no. AgLUS-3.

AgLUS 3

RECORD OF WELL COMPLETION

START WELL COMPLETION: DATE 03 / 02 / 03 TIME 12:00

FINISH WELL COMPLETION: DATE 03 / 03 / 03 TIME 12:30

COMPLETION ELEMENT	COMPLETION MATERIALS	AMOUNT (by ~~weight or~~ volume)	FROM ~~feet~~ (or meters)	TO ~~feet~~ (or meters)	TOTAL LENGTH ~~(feet)~~ (or meters)
PRIMARY FILTER PACK	10-20 CO SPRGS SILICA SAND	7 x 50 lb bags	93.49	80.0	13.49
SECONDARY FILTER PACK	NONE				
ANNULAR SEALS	1/4" COATED bentonite pellets	1 x 50 lb bucket	80.0	78.02	1.98
	bentonite grout	11 x 50 lb bags	78.02	3.0	75.02
SURFACE SEAL	Quickcrete concrete	8 x 80 lb bags	3.0	0	3.0
WELL PROTECTOR	6" steel Surface Casing		~~3.6~~ 2.4	-2.6	5.0

COMMENTS- Measurements are in feet below land surface.
- well completed by jbeck.

Figure 16. *Example of a form to record well completion.*

RECORD OF WELL COMPLETION: WELL-COMPLETION DIAGRAM (Single-well site)

SITE ID 395300104253301 STATION NAME AgLUS 3
OTHER ID SC00206310CDD
7.5' QUAD Adams, CO Sheet 2 COUNTY Adams STATE CO
OWNER Kenneth Demoney DRILLER USGS
Units used (circle one): (feet) / meters / other _____

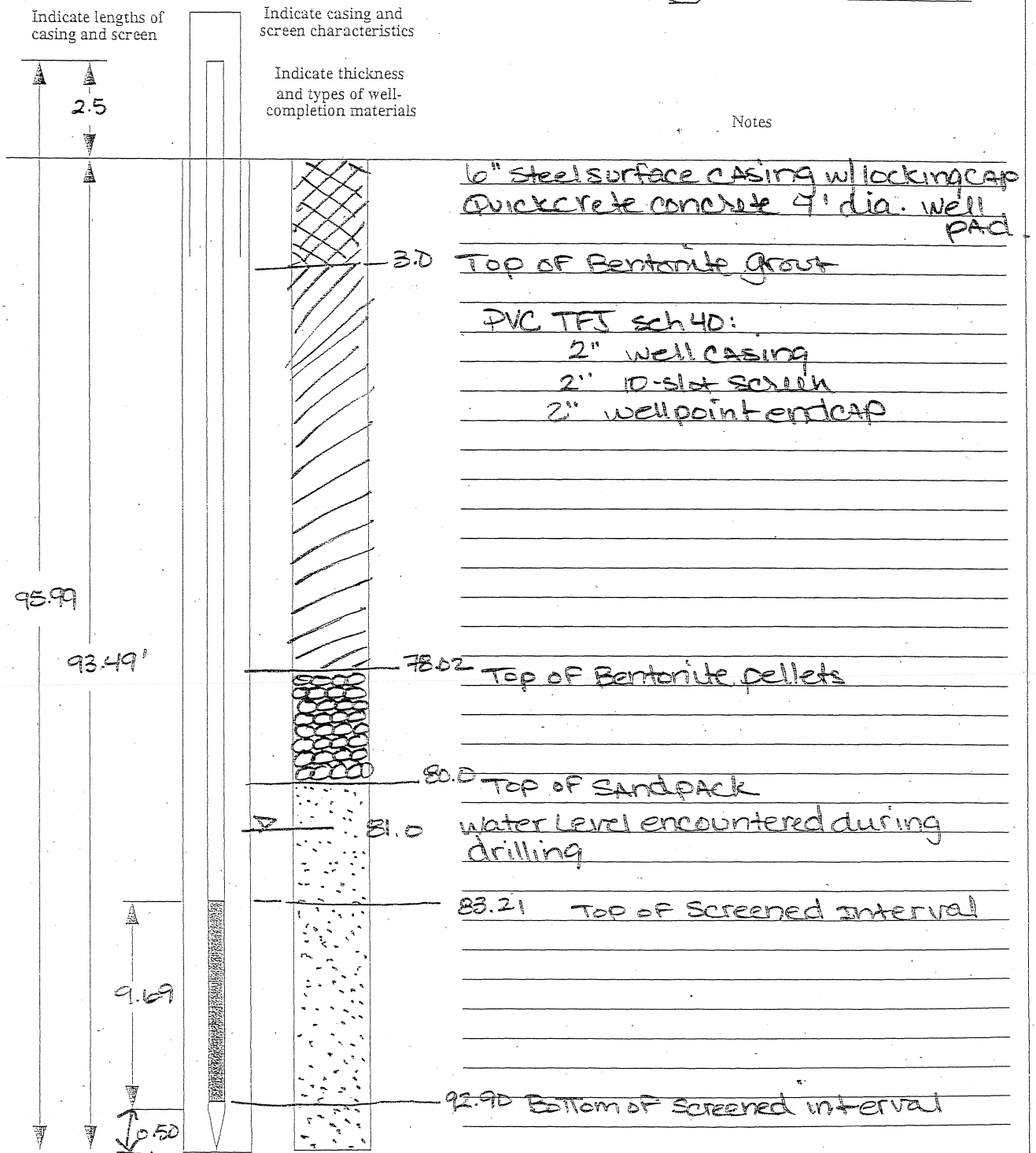


Figure 16. *Example of a form to record well completion--Continued.*

Borehole Log

Site ID 395300104253301
Date(s) Drilled 3/2/03, 3/3/03
Coordinates N39° 53' 00.4", W104° 25' 33.9
Drilling Co. and Driller USGS
Drilling method CME85 HollowStem Auger
Borehole Diameter 9"
Logged by JBeck

Borehole No. AgLvs 3
Pages 1 of 3
Ground Surface Elevation ~~5510~~ 5196
Total Depth 93.49
Depth to Water 80.0
Static Water Depth 81.01 (meas. 4/3/03)

Comments

Depth (ft bls)	Sample type and recovery	Lithologic Description: Color (GSA chart)	Lithologic Description: Grain size %, sorting, roundness, mineral composition %, consolidation (none, poor, well), and moisture content (dry, damp, moist, wet)	Other characteristics and drilling comments
2-3'	cuttings	10YR 6/6 10YR 5/4	dark yellowish orange to moderate yellowish brown, med-coarse to very coarse (0.5-1 cm) sand 10% very coarse grains, subangular predominately Qtz and feldspar (feldspar ~15%, Qtz ~80%) not consolidated, dry	poorly sorted
5-10'	cuttings	same	same dry sand as above.	
10-15'	cuttings	same	same as 2-3' description about.	
16-18'	cuttings	10YR 6/6 10YR 5/4	dark yellowish orange to moderate yellowish brown, med to coarse to very coarse (1 cm) damp sand, not consolidated, poorly sorted, sub-Angular grains, predominately Qtz (~80%) And K-Feldspar (10-15%) very coarse grains approx 10% of composition.	
18.5-23.5	core 4.0' Run, 3.0' recovered			
18.5-21.5	core	10YR 6/6	dark yellowish orange, med to coarse grained damp to moist sand, predominately Qtz (~85%) and K-Feldspar (5-10%), poorly consolidated, med. to poorly sorted, sub-Angular to sub-rounded grains, grains generally coarser from 20.5 to 21.5' bls.	
25-30'	cuttings	10YR 5/4 10YR 6/6	moderate yellowish brown to dark yellowish orange, clayey sand.	dark yell.

Borehole Log

Site ID
Date(s) Drilled
Coordinates
Drilling Co. and Driller
Drilling method
Borehole Diameter
Logged by

Borehole No. Aquis3
Pages 2 of 3
Ground Surface Elevation
Total Depth
Depth to Water
Static Water Depth

Comments

Depth (ft bls)	Sample type and recovery	Lithologic Description: Color (GSA chart)	Lithologic Description: Grain size %, sorting, roundness, mineral composition %, consolidation (none, poor, well), and moisture content (dry, damp, moist, wet)	Other characteristics and drilling comments
32-33'	cuttings	10YR6/6	dark yellowish orange coarse to very coarse (1.5-2.0 cm) clayey sand. damp to moist. sub-angular grains, poorly sorted, mod. consolidated (due to damp clay present). 5-10% clay minerals, 10% Feldspar ~75% Qtz.	
33.5-38.5	core		4.0' run, 2.8' Recovered.	
33.5-35.3	core	10YR6/6	Dark yell. orange interbedded sand & clay, clay zones between 33.5 and 34.2' and 35.0-35.3 sand: coarse gr., sub rounded, poorly consolidated, moderate sorting. composition 70-80% Qtz 10% Feldspar. 5% Lithic fragments (blk) damp.	
42-44'	cuttings	10YR6/6	dark yell. orange damp clayey sand.	
47-49'	cuttings	10YR5/4	mod. yell. brown damp clayey sand clay minerals ~30-40% sand - med to coarse. mod-well rounded mod. - well sorted, moderately consolidated Qtz-rich sand.	
50-55'	cuttings	same	same description as 47-49' cuttings	
55-60'	cuttings	same	same description as 47-49' cuttings	
~~60-62'~~				
62-63'	cuttings	10YR6/6	dark yellowish orange damp coarse sand grains coarse. (up to 0.5 cm) poorly sorted, poorly consolidated comp: Qtz ~75% Feldspar ~10%-15% sub-rounded grains	

Borehole Log

Site ID _____
Date(s) Drilled _____
Coordinates _____
Drilling Co. and Driller _____
Drilling method _____
Borehole Diameter _____
Logged by _____

Borehole No. AqLWS3
Pages 3 of 3
Ground Surface Elevation _____
Total Depth _____
Depth to Water _____
Static Water Depth _____

Comments _____

Depth (ft bls)	Sample type and recovery	Lithologic Description: Color (GSA chart)	Lithologic Description: Grain size %, sorting, roundness, mineral composition %, consolidation (none, poor, well), and moisture content (dry, damp, moist, wet)	Other characteristics and drilling comments
67-68'	10YR6/6 cuttings		dark yellowish orange moist coarse sand clay minerals ~5% Qtz ~80° feldspar ~10% Lithic Fragments ~5% poorly consolidated. Moderate sorting mod.-rounding (sub-rounded grains)	
68.5-73.5	core		4.0' Run ; 3.0' recovered	
68.5-71.5	core	10YR7/4 10YR6/6	grayish orange to dark yellowish orange damp sand. coarse to very coarse (1 mm) grain size. 70% Qtz ; 5-10% feldspar	10% Lithic Frag. subangular to sub-rounded not consolidated.
			Representative samples taken from 69.0-69.6 & 70.9-71.5	
75-80'	cuttings	same	same description as 68.5-71.5'	
80-85'	cuttings	same	same description as 68.5-71.5'	
83.5-83.7	core	10YR6/2	0.2 recovered. pale yell. brown. wet sand/gravel 60-65% Qtz ; 15% feldspar (15-20%) ~ 10% Lithic frag. poor consolidation sub-rounded poor sorted. gr. size range from 0.2 mm to 1.0 mm.	
			Water level encountered during drilling = 81.0' bls	
85-86	cuttings	10YR6/2	same as described in 83.5-83.7' core	
90-92	cuttings	10YR6/2	same as described in 83.5-83.7' core	

Form No.
GWS-25

OFFICE OF THE STATE ENGINEER
COLORADO DIVISION OF WATER RESOURCES

818 Centennial Bldg., 1313 Sherman St., Denver, Colorado 80203
(303) 866-3581

AUTH

WELL PERMIT NUMBER 251828 - - -
DIV. 8 WD 1 DES. BASIN 5 MD 9

APPLICANT

US GEOLOGICAL SURVEY
DENVER FEDERAL CENTER
PO BOX 25046 MS 415
LAKEWOOD, CO 80225-

(303) 236-4882

APPROVED WELL LOCATION
ADAMS COUNTY
SW 1/4 SW 1/4 Section 33
Township 1 S Range 65 W Sixth P.M.

DISTANCES FROM SECTION LINES
10 Ft. from South Section Line
1000 Ft. from West Section Line

UTM COORDINATES
Northing: Easting:

PERMIT TO USE AN EXISTING WELL

CONDITIONS OF APPROVAL

1) This well shall be used in such a way as to cause no material injury to existing water rights. The issuance of this permit does not assure the applicant that no injury will occur to another vested water right or preclude another owner of a vested water right from seeking relief in a civil court action.
2) The construction of this well shall be in compliance with the Water Well Construction Rules 2 CCR 402-2, unless approval of a variance has been granted by the State Board of Examiners of Water Well Construction and Pump Installation Contractors in accordance with Rule 18.
3) Approved pursuant to CRS 37-92-602(3)(b)(I) for uses as described in CRS 37-92-602(1)(f). Use of this well is limited to monitoring water levels and/or water quality sampling.
4) Approved for the use of an existing well acknowledged for construction under monitoring hole notice MH-41644, and known as AGLUS5.
5) This well must be equipped with a locking cap or seal to prevent well contamination or possible hazards as an open well. The well must be kept capped and locked at all times except during sampling or measuring.
6) Records of water level measurements and water quality analyses shall be maintained by the well owner and submitted to the Division of Water Resources upon request.
7) Upon conclusion of the monitoring program the well owner shall plug this well in accordance with Rule 16 of the Water Well Construction Rules. A Well Abandonment Report must be completed and submitted to the Division of Water Resources within 60 days of plugging.
8) The owner shall mark the well in a conspicuous place with well permit number(s) and name of aquifer as appropriate, and shall take necessary means and precautions to preserve these markings.
9) This well must have been constructed by or under the supervision of a licensed well driller or other authorized individual according to the Water Well Construction Rules.
10) This well must be located not more than 200 feet from the location specified on this permit.

RECORD OF WELL COMPLETION Ag LUSS

START WELL COMPLETION: DATE 1 / 9 / 03 TIME 8:30 AM

FINISH WELL COMPLETION: DATE 1 / 9 / 03 TIME 13:15

COMPLETION ELEMENT	COMPLETION MATERIALS	AMOUNT (by (weight) or volume)	FROM (feet) (or meters)	TO (feet) (or meters)	TOTAL LENGTH (feet) (or meters)
PRIMARY FILTER PACK	10-20 Colo. Silica	9-50lb bags	90ft bls	76.7 bls	13.3
	Sand				
SECONDARY FILTER PACK	none				
ANNULAR SEALS	1/4" coated Bentonite Pellets	1-50lb pail	76.7 bls	74.8 bls	~~2.1~~ 1.9 ft.
	Bentonite Chips	1-50lb bag	74.8 bls	73.0 bls	1.8 ft.
SURFACE SEAL	Bentonite Grout	7-50lb bags	73.0 bls	2.5 bls	70.5 ft
	Quick Crete	10-80lb bags	2.5 bls	0.0 bls	2.5 ft
WELL PROTECTOR	6" diameter steel		+2.5 bls	-2.5 bls	5.0 ft
	w/locking cap				

COMMENTS: All depths measured from bls
bls: below land surface
Well completed by S. Paschke

Figure 16. *Example of a form to record well completion.*

RECORD OF WELL COMPLETION: WELL-COMPLETION DIAGRAM (Single-well site)

SITE ID 395450104402701 STATION NAME
OTHER ID AGUS-5
7.5' QUAD
OWNER VanSchaack Holdings, LTD. COUNTY Adams STATE CO
DRILLER USGS
Units used (circle one): (feet) / meters / other

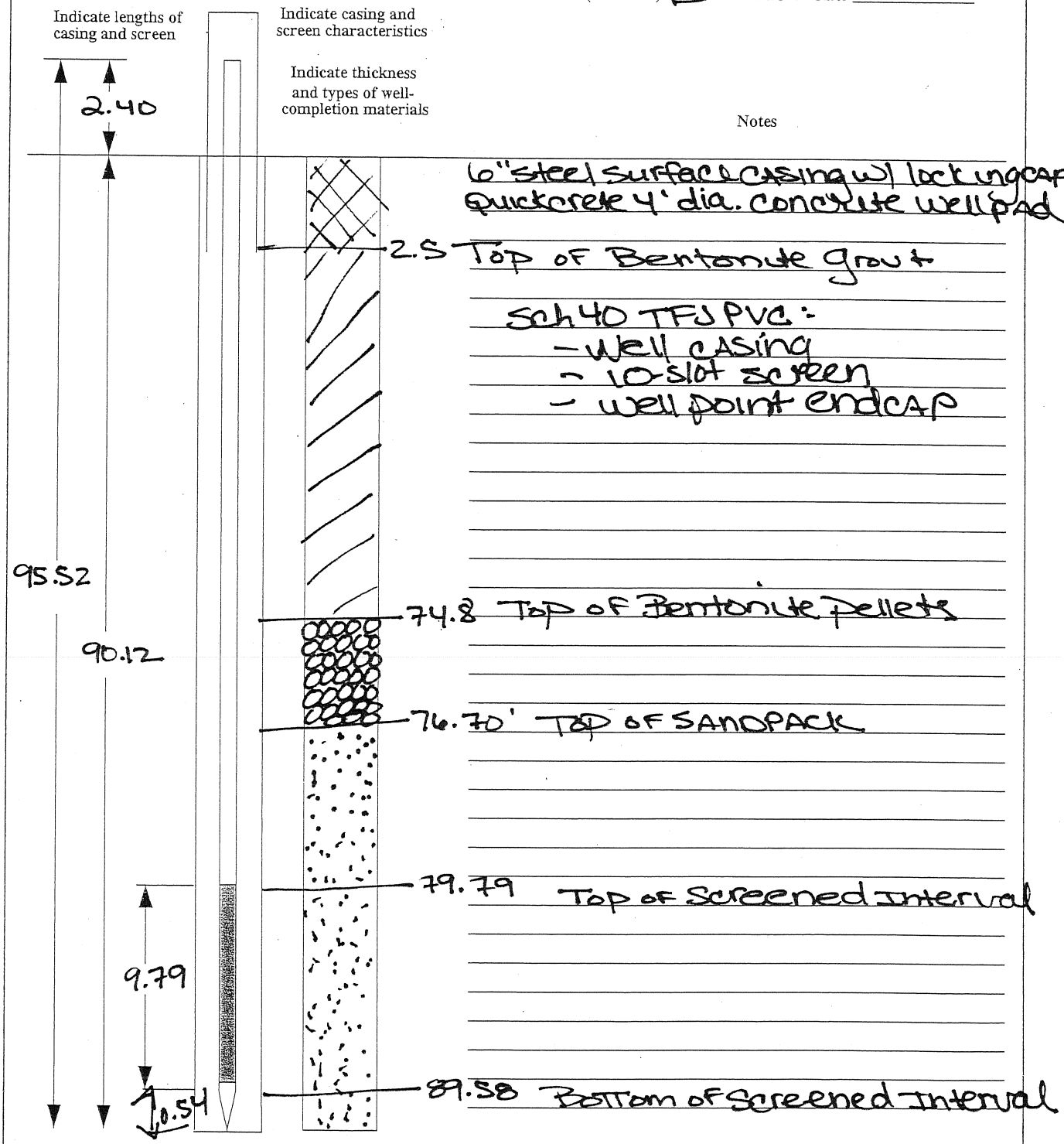


Figure 16. *Example of a form to record well completion--Continued.*

Borehole Log

Site ID 395450104402701
Date(s) Drilled 1/8/03, 1/9/03
Coordinates N 39°54'50.8", W104°40'27.82"
Drilling Co. and Driller USGS
Drilling method CME85 HollowStemAuger
Borehole Diameter 9"
Logged by JBECK, SPASCHKE

Borehole No. AgLUS-5
Pages 1 of 3
Ground Surface Elevation ~~5298~~ 5318
Total Depth 90.12 BLS
Depth to Water 76.64' BLS meas 4/03
Static Water Depth

Comments

Depth (ft bls)	Sample type and recovery	Lithologic Description: Color (GSA chart)	Lithologic Description: Grain size %, sorting, roundness, mineral composition %, consolidation (none, poor, well), and moisture content (dry, damp, moist, wet)	Other characteristics and drilling comments
2-3'	cuttings	10YR5/4	moderate yellowish brown damp well sorted silt & very fine sand. Feldspar granules 2-4 mm in size sub-rounded - rounded	
3.5-8.5	core.		5.0/5.0' Recovered	
3.5-8.5	core	10YR5/4	moderate yellowish brown silty very fine sand. caliche (strong HCl Rxn), unconsolidated damp. sub to well rounded well-sorted homogeneous texture	
9-10'	cuttings	10YR5/4	same composition as described in 3.5-8.5' core. slightly better consolidation w/ caliche	
13.5-18.5	core		5.0/5.0' Recovered	
13.5-13.7	core	10YR5/4	mod. yel. brown silty to very fine sand poorly consolidated damp sub-rounded - mod-well sorted homogeneous texture.	
13.7-18.5	core	5Y5/2 N4	light olive gray to medium dark gray claystone bedrock (Denver Fm) Fe-stained, contains ~1% organic material ~~[illegible]~~ Damp to moist, well-consolidated.	
22-23'	cuttings	~~5Y5/2~~ N4 5Y5/2	medium dark gray to light olive gray damp claystone	

Borehole Log

Site ID _____
Date(s) Drilled _____
Coordinates _____
Drilling Co. and Driller _____
Drilling method _____
Borehole Diameter _____
Logged by _____

Borehole No. AgLLS-S
Pages 2 of 3
Ground Surface Elevation _____
Total Depth _____
Depth to Water _____
Static Water Depth _____

Comments _____

Depth (ft bls)	Sample type and recovery	Lithologic Description: Color (GSA chart)	Lithologic Description: Grain size %, sorting, roundness, mineral composition %, consolidation (none, poor, well), and moisture content (dry, damp, moist, wet)	Other characteristics and drilling comments
23.5-28.5	core		5.0 / 5.0 Recovered	
23.5-28.5	core	5Y 5/2 N4	Light olive gray to medium dark gray damp claystone. Fe-stained along fractures. well-consolidated.	
32-33	cuttings	N4	medium dark gray damp claystone	
37-39	cuttings	N4	medium dark gray damp claystone	
42-44	cuttings	N4	medium dark gray damp claystone	
46-48	cuttings	N4	med. dark gray damp claystone	
52-54	cuttings	N4	med. dark gray damp claystone	
57-59	cuttings	N4	med. dark gray damp claystone.	
62-64	cuttings	N4	med. dark gray damp claystone	
67-69	cuttings	N3	Dark gray damp Claystone	
68.5-73.5	core		4.7 / 5.0 ' RECOVERED	
68.5-73.2	core	N1 N4	Black grading into medium dark gray (at approx. 70' BLS). 68.5-70.0 friable coal. damp claystone from 70.0-73.2, Fe-staining along fracture zones. poorly consolidated. Claystone gets sandy from 72.8'-73.2' BLS	
74-76	cuttings	N4	medium dark gray damp sandy claystone	

Borehole Log

Site ID
Date(s) Drilled
Coordinates
Drilling Co. and Driller
Drilling method
Borehole Diameter
Logged by

Borehole No. Aglus-5
Pages 3 of 3
Ground Surface Elevation
Total Depth
Depth to Water
Static Water Depth

Comments

Depth (ft bls)	Sample type and recovery	Lithologic Description: Color (GSA chart)	Lithologic Description: Grain size %, sorting, roundness, mineral composition %, consolidation (none, poor, well), and moisture content (dry, damp, moist, wet)	Other characteristics and drilling comments
77-79	cuttings	N1-N2	Black to Grayish black, damp claystone, probably contains interbeds of coal.	
82-84	cuttings	N2	grayish black damp claystone	
87-89	cuttings	5YR3/2	grayish brown claystone, damp to moist.	
88.5-90.0	core		1.5 / 1.5' Recovered	
88.5-90.0	core	10YR5/4 10YR6/2	moderate yellowish brown to pale yellowish brown, ~~damp to moist~~ wet medium sandstone, well sorted, well rounded mod-poorly consolidated. homogeneous texture. Qtz-rich	

Form No.
GWS-25

OFFICE OF THE STATE ENGINEER
COLORADO DIVISION OF WATER RESOURCES

818 Centennial Bldg., 1313 Sherman St., Denver, Colorado 80203
(303) 866-3581

AUTH

WELL PERMIT NUMBER 250288 - - -
DIV. 1 WD 1 DES. BASIN MD

APPLICANT

US GEOLOGICAL SURVEY
DENVER FEDERAL CENTER
PO BOX 25046 MS 415
LAKEWOOD, CO 80215-

(303) 236-4882

APPROVED WELL LOCATION
ADAMS COUNTY
SE 1/4 SE 1/4 Section 6
Township 1 S Range 64 W Sixth P.M.

DISTANCES FROM SECTION LINES
81 Ft. from South Section Line
31 Ft. from East Section Line

UTM COORDINATES
Northing: Easting:

ISSUANCE OF THIS PERMIT DOES NOT CONFER A WATER RIGHT

CONDITIONS OF APPROVAL

1) This well shall be used in such a way as to cause no material injury to existing water rights. The issuance of this permit does not assure the applicant that no injury will occur to another vested water right or preclude another owner of a vested water right from seeking relief in a civil court action.
2) The construction of this well shall be in compliance with the Water Well Construction Rules 2 CCR 402-2, unless approval of a variance has been granted by the State Board of Examiners of Water Well Construction and Pump Installation Contractors in accordance with Rule 18.
3) Approved pursuant to CRS 37-92-602(3)(b)(I) for uses as described in CRS 37-92-602(1)(f). Use of this well is limited to monitoring water levels and/or water quality sampling.
4) Approved for the use of an existing well acknowledged for construction under monitoring hole notice MH-41646, and known as AGLUS6.
5) This well must be equipped with a locking cap or seal to prevent well contamination or possible hazards as an open well. The well must be kept capped and locked at all times except during sampling or measuring.
6) Records of water level measurements and water quality analyses shall be maintained by the well owner and submitted to the Division of Water Resources upon request.
7) Upon conclusion of the monitoring program the well owner shall plug this well in accordance with Rule 16 of the Water Well Construction Rules. A Well Abandonment Report must be completed and submitted to the Division of Water Resources within 60 days of plugging.
8) The owner shall mark the well in a conspicuous place with well permit number(s) and name of aquifer as appropriate, and shall take necessary means and precautions to preserve these markings.
9) This well must have been constructed by or under the supervision of a licensed well driller or other authorized individual according to the Water Well Construction Rules.
10) This well must be located not more than 200 feet from the location specified on this permit.

RECORD OF WELL COMPLETION AgLUSCo

START WELL COMPLETION: DATE 1 / 10 / 03 TIME 8:30 AM

FINISH WELL COMPLETION: DATE 1 / 10 / 03 TIME 12:30 pm

COMPLETION ELEMENT	COMPLETION MATERIALS	AMOUNT (by ~~weight~~ or volume)	FROM (feet or meters)	TO (feet or meters)	TOTAL LENGTH (feet or meters)
PRIMARY FILTER PACK	10-20 Silica Sand	11-50lb bags	42 ~~28.0~~ ft	~~36.0~~ ~~28.0~~ ft 27.0	15.0
SECONDARY FILTER PACK	none				
			27.0		
ANNULAR SEALS	1/4" coated Bent pellets	~~2~~ 1-50lb Pail	~~26.0~~ ~~25.0~~ ft	25.3	1.70
	Bentonite chips	1/2-50lb bag	25.3	24.3	1.0
SURFACE SEAL	Bentonite grout	4-50lb bags	24.3	2.0	22.3
	Quick Crete Cement	7-50lb bags	2.0	0.0	2.0
			2.9	2.1	
WELL PROTECTOR	6" steel w/		3.0	-2.0	5.0
	locking cap				

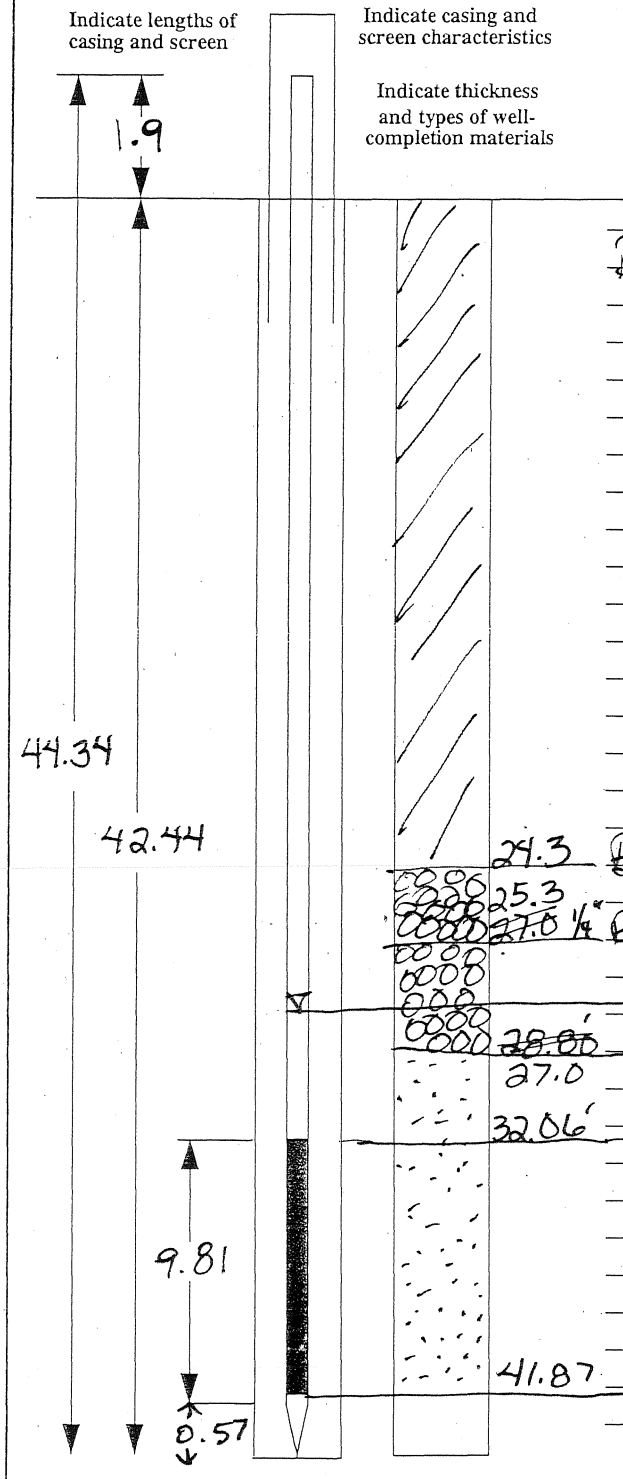
COMMENTS: All measurements are from below land surface (bls)
Well completion by S. Paschke

Figure 16. *Example of a form to record well completion.*

AG LUS 6

RECORD OF WELL COMPLETION: WELL-COMPLETION DIAGRAM (Single-well site)

SITE ID 395909104350401 STATION NAME Ag LUS-6
OTHER ID SC001064 06 DDD
7.5' QUAD Adams Co, CO Sheet1 COUNTY Adams STATE CO
OWNER Richard North DRILLER USGS
Units used (circle one): feet / meters / other _____



Notes

Concrete pad + seal
Bentonite grout
24.3 Bentonite chips
25.3
27.0 ¼" Bentonite pellets
Water encountered @28' during drilling
28.00
27.0 Top of sand pack
32.06' Top of SI = 32.06 ft bls
41.87 Bottom of SI = 41.87 ft bls

Figure 16. *Example of a form to record well completion--Continued.*

Borehole Log

Site ID 395909104350401
Date(s) Drilled 1-9-03, 1-10-03
Coordinates N 39°59'09.73", W104°35'04.44"
Drilling Co. and Driller USGS
Drilling method CME 85 Hollow Stem Auger
Borehole Diameter 9"
Logged by S. Paschke & J. Beck

Borehole No. AgUS-6
Pages 1 of 2
Ground Surface Elevation ~~5068~~ ~~5098~~ ~~5088~~
Total Depth 42.44 bls
Depth to Water 28.0 bls
Static Water Depth 27.15 bls (meas. 4/3/03)

Comments

Depth (ft bls)	Sample type and recovery	Lithologic Description: Color (GSA chart)	Lithologic Description: Grain size %, sorting, roundness, mineral composition %, consolidation (none, poor, well), and moisture content (dry, damp, moist, wet)	Other characteristics and drilling comments
3.5-8.5	core 5.0' Recovered	10YR5/4	moderate yellowish brown sandy silt dry - sand: fine grained. Caliche zone from 6.5-7.5 moderately consolidated	
12-13'	cuttings	10YR5/4	moderate yellowish brown sandy clay - damp to moist sand makes up ≤ 10% of sample composition. sand = fine grained well sorted.	
13.5-18.5'	core		5.0' Run, 3.0' Recovered.	
13.5-18.5	core	10YR5/4	moderate yellowish brown sandy clay. damp. sand ~ 10% of ~~total~~ sample composition uniformly distributed. fine grained well sorted. moderate - well compacted.	
18.5-23.5	core		5.0' Run, 5.0' Recovered.	
18.5-22.5	core	10YR5/4	moderate yellowish brown. same description as 13.5-18.5' interval	
22.5-23.5	core	10YR5/4	mod. yell. brown sandy clay. sand makes up ~25% of sample. composition. sand = very fine grained ~~be~~ well-rounded, well sorted. loosely compacted. damp.	
26-28	cuttings	10YR5/4	moderate yellowish brown sandy. ~~clay~~. clay. same description as 22.5-23.5' interval	

Borehole Log

Site ID _____
Date(s) Drilled _____
Coordinates _____
Drilling Co. and Driller _____
Drilling method _____
Borehole Diameter _____
Logged by _____

Borehole No. AgLUS-6
Pages 2 of 2
Ground Surface Elevation _____
Total Depth _____
Depth to Water _____
Static Water Depth _____

Comments _____

Depth (ft bls)	Sample type and recovery	Lithologic Description: Color (GSA chart)	Lithologic Description: Grain size %, sorting, roundness, mineral composition %, consolidation (none, poor, well), and moisture content (dry, damp, moist, wet)	Other characteristics and drilling comments
28.5-33.5'	core		5.0' Run, 3.0' Recovered.	
28.5-31.5	core	10YR5/4	moderate Yellowish brown rough Fining upward. Not consolidated well sorted, well rounded. 20% Lithic Fragments 15% feldspar 65% qtz	wet sand
35-37	cuttings	10YR5/4	same as described in 28.5-31.5 core	
39-41	cuttings	10YR 5/4	Same as described in 28.5-31.5 core	

Form No.
GWS-25

OFFICE OF THE STATE ENGINEER
COLORADO DIVISION OF WATER RESOURCES

818 Centennial Bldg., 1313 Sherman St., Denver, Colorado 80203
(303) 866-3581

AUTH

WELL PERMIT NUMBER 250286 - - -
DIV. 1 WD 1 DES. BASIN MD

APPLICANT

US GEOLOGICAL SURVEY
DENVER FEDERAL CENTER
PO BOX 25046 MS 415
LAKEWOOD, CO 80215-

(303) 236-4882

APPROVED WELL LOCATION
ADAMS COUNTY
NE 1/4 NE 1/4 Section 19
Township 2 S Range 64 W Sixth P.M.

DISTANCES FROM SECTION LINES
20 Ft. from North Section Line
1225 Ft. from East Section Line

UTM COORDINATES
Northing: Easting:

PERMIT TO USE AN EXISTING WELL

ISSUANCE OF THIS PERMIT DOES NOT CONFER A WATER RIGHT

CONDITIONS OF APPROVAL

1) This well shall be used in such a way as to cause no material injury to existing water rights. The issuance of this permit does not assure the applicant that no injury will occur to another vested water right or preclude another owner of a vested water right from seeking relief in a civil court action.
2) The construction of this well shall be in compliance with the Water Well Construction Rules 2 CCR 402-2, unless approval of a variance has been granted by the State Board of Examiners of Water Well Construction and Pump Installation Contractors in accordance with Rule 18.
3) Approved pursuant to CRS 37-92-602(3)(b)(I) for uses as described in CRS 37-92-602(1)(f). Use of this well is limited to monitoring water levels and/or water quality sampling.
4) Approved for the use of an existing well acknowledged for construction under monitoring hole notice MH-41690, and known as AGLUS8.
5) This well must be equipped with a locking cap or seal to prevent well contamination or possible hazards as an open well. The well must be kept capped and locked at all times except during sampling or measuring.
6) Records of water level measurements and water quality analyses shall be maintained by the well owner and submitted to the Division of Water Resources upon request.
7) Upon conclusion of the monitoring program the well owner shall plug this well in accordance with Rule 16 of the Water Well Construction Rules. A Well Abandonment Report must be completed and submitted to the Division of Water Resources within 60 days of plugging.
8) The owner shall mark the well in a conspicuous place with well permit number(s) and name of aquifer as appropriate, and shall take necessary means and precautions to preserve these markings.
9) This well must have been constructed by or under the supervision of a licensed well driller or other authorized individual according to the Water Well Construction Rules.
10) This well must be located not more than 200 feet from the location specified on this permit.

Ag LUS 8

RECORD OF WELL COMPLETION

START WELL COMPLETION: DATE 1 / 15 / 03 TIME 14:30

FINISH WELL COMPLETION: DATE 1 / 16 / 03 TIME 9:30

COMPLETION ELEMENT	COMPLETION MATERIALS	AMOUNT (by (weight) or volume)	FROM (feet) or meters)	TO (feet) or meters)	TOTAL LENGTH (feet) or meters)
PRIMARY FILTER PACK	10-20 Co. Silica Sand	9-50 lb bags	68.46	56.0	
SECONDARY FILTER PACK	none				
ANNULAR SEALS	1/4" coated bentonite pellets	1-50lb bucket	56.0	53.5	2.5
	Bentonite grout		53.5	0.5	53.0
	Quick Crete Concrete	8-80 lb bags	0.5	0.0	0.5
SURFACE SEAL					
WELL PROTECTOR	6" steel surface		~~2.5~~ -2.6	~~-2.5~~ -2.4	5.0
	casing w/ locking cap				

COMMENTS: Measurements are in ft. below land surface (bls)

- Well completed by JBeck

Figure 16. *Example of a form to record well completion.*

RECORD OF WELL COMPLETION: WELL-COMPLETION DIAGRAM (Single-well site)

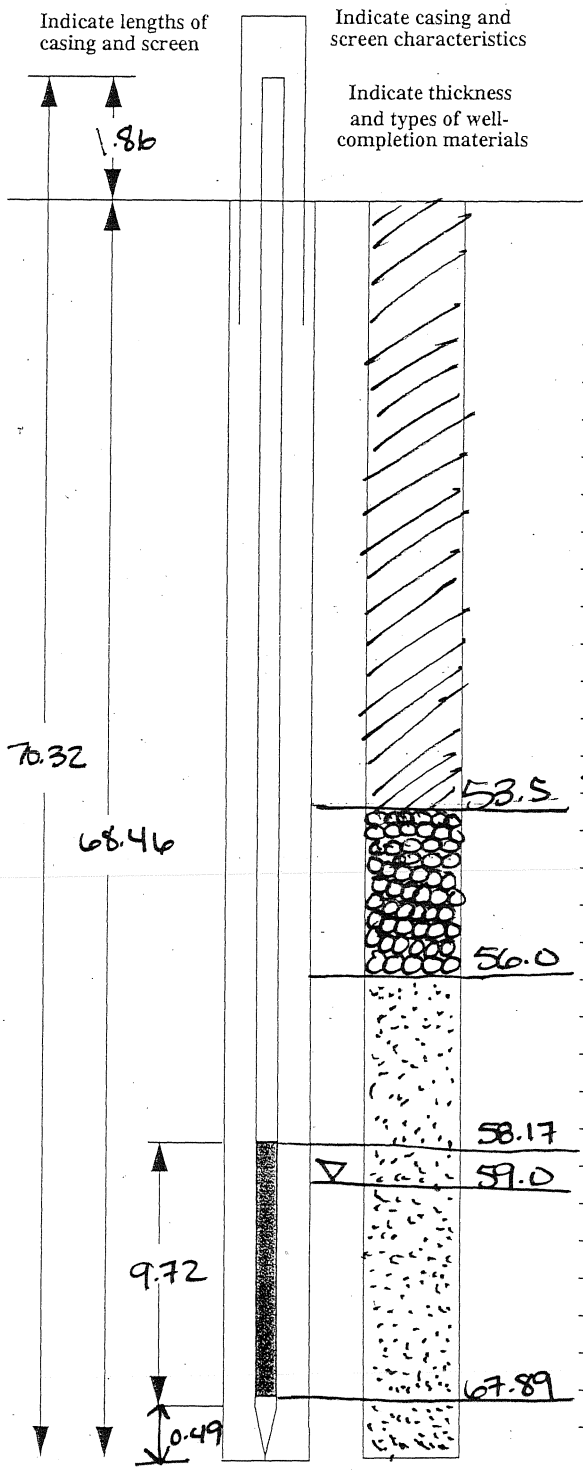
SITE ID _____ STATION NAME AgLUSS

OTHER ID _____

7.5' QUAD _____ COUNTY Adams STATE CO

OWNER _____ DRILLER USGS

Units used (circle one): (feet) / meters / other _____



Notes

6" steel surface casing w/ locking cap
Quickcrete 4' diam. concrete well pad

2" sch 40 PVC TFJ well casing,
2" sch 40 PVC TFJ 10 slot screen
TFJ well point endcap

Bentonite Grout to Surface

53.5 Top of Bentonite pellets

56.0 Top of 10-20 sand pack

58.17 Top of screened interval

59.0 Water level encountered during drilling

67.89 Bottom of screened interval

Figure 16. *Example of a form to record well completion--Continued.*

Borehole Log

Site ID
Date(s) Drilled 1-15-03
Coordinates
Drilling Co. and Driller USGS
Drilling method CME 85
Borehole Diameter
Logged by JBeck

Borehole No. AgLUS8
Pages 1 of 2
Ground Surface Elevation 5335
Total Depth 68.46'
Depth to Water
Static Water Depth

Comments

Depth (ft bls)	Sample type and recovery	Lithologic Description: Color (GSA chart)	Lithologic Description: Grain size %, sorting, roundness, mineral composition %, consolidation (none, poor, well), and moisture content (dry, damp, moist, wet)	Other characteristics and drilling comments
2-4'	cuttings		med. brown silt (loess) dry	
8.5-13.5'	core		5.0' Recovered	
8.5-10.0	↓	10YR5/4 to 10YR 4/2	moderate yellowish brown to dark yellowish brown silt, some isolated zones of caliche - strong HCL Rxn.	
10.0			contact between silt & claystone.	
10.0-13.5	↓	10YR ~~5/4~~ 4/2	Dark yellowish brown claystone. damp. calcite crystals visible	
17'-19'	cuttings		damp, dark yellow brown claystone.	
22'-24'	cuttings		same claystone.	
25-26'	cuttings		cuttings change from claystone to Fine gr. compacted sandstone.	
33.5-38.5	CORE		5.0' Recovered.	
33.5-36.5	↓	10YR 8/2 to 10YR 7/4	Very Pale Orange to grayish orange fine grained, well sorted, well rounded, loosely compacted sand. dry.	
36.5-36.9		same	same as above horiz. layers of Fe-staining present x-cutting qtz veins	
36.9-38.5	↓	same	same description as 33.5-36.5 interval well compacted sandstone	
45'-46'	cuttings		cuttings ● containing more clay (a clayey sand)	
52-54	cuttings		clayey sand damp	
57-59	cuttings		same as above	

Borehole Log

Site ID
Date(s) Drilled
Coordinates
Drilling Co. and Driller USGS
Drilling method CME 85
Borehole Diameter
Logged by J Beck

Borehole No. AgCUS8
Pages 2 of 2
Ground Surface Elevation
Total Depth 608.46'
Depth to Water
Static Water Depth

Comments

Depth (ft bls)	Sample type and recovery	Lithologic Description: Color (GSA chart)	Lithologic Description: Grain size %, sorting, roundness, mineral composition %, consolidation (none, poor, well), and moisture content (dry, damp, moist, wet)	Other characteristics and drilling comments
58.5-63.5	CORE		5.0' Recovered	Encountered water near 60'
		10YR6/6 to 10YR5/4	Dark Yellowish Orange to Moderate Yellowish Brown Wet, Fine - Med gr. sand homogeneous throughout core interval. Moderate to well sorted preserved core samples from this interval Represent entire interval -	Water level Meas = 60.85 Rising

JB

Form No.
GWS-25

OFFICE OF THE STATE ENGINEER
COLORADO DIVISION OF WATER RESOURCES

818 Centennial Bldg., 1313 Sherman St., Denver, Colorado 80203
(303) 866-3581

AUTH

WELL PERMIT NUMBER 249372 - - -
DIV. 8 WD 1 DES. BASIN 5 MD 9

APPLICANT

US GEOLOGICAL SURVEY
DENVER FEDERAL CENTER
PO BOX 25046 MS 415
LAKEWOOD, CO 80225-

(303) 236-4882

APPROVED WELL LOCATION
ADAMS COUNTY
NE 1/4 SW 1/4 Section 26
Township 3 S Range 64 W Sixth P.M.

DISTANCES FROM SECTION LINES
2640 Ft. from South Section Line
2640 Ft. from West Section Line

UTM COORDINATES
Northing: Easting:

PERMIT TO USE AN EXISTING WELL

CONDITIONS OF APPROVAL

1) This well shall be used in such a way as to cause no material injury to existing water rights. The issuance of this permit does not assure the applicant that no injury will occur to another vested water right or preclude another owner of a vested water right from seeking relief in a civil court action.
2) The construction of this well shall be in compliance with the Water Well Construction Rules 2 CCR 402-2, unless approval of a variance has been granted by the State Board of Examiners of Water Well Construction and Pump Installation Contractors in accordance with Rule 18.
3) Approved pursuant to CRS 37-90-105(1)(d). Use of this well is limited to monitoring water levels and/or water quality sampling.
4) This well must be equipped with a locking cap or seal to prevent well contamination or possible hazards as an open well. The well must be kept capped and locked at all times except during sampling or measuring.
5) Sampling is limited to the alluvium of Lost Creek or its tributaries. The depth of this well shall not exceed 45 feet or the depth at which sandstone or shale is first encountered, whichever comes first.
6) Records of any water level measurements and water quality analyses shall be maintained by the well owner and submitted to the Lost Creek Ground Water Management District and the Division of Water Resources upon request.
7) Upon conclusion of the monitoring program the well owner shall plug this well in accordance with Rule 16 of the Water Well Construction Rules. A Well Abandonment Report must be completed and submitted to the Division of Water Resources within 60 days of plugging.
8) The owner shall mark the well in a conspicuous place with well permit number(s) and name of aquifer as appropriate, and shall take necessary means and precautions to preserve these markings.
9) This well must be constructed within 300 feet of the location specified on this permit.
10) This well must have been constructed by or under the supervision of a licensed well driller or other authorized individual according to the Water Well Construction Rules.
11) A Well Construction and Test Report (Form GWS-31), including lithologic log must be submitted by the individual authorized to construct the well. For non-standard construction, the report must include an as-built drawing showing details such as depth, casing, perforated zones, and a description of the grouting type and interval.

NOTE: Monitoring hole notice no. MH-41819, was acknowledged on February 12, 2003, for construction of this well. The owner has assigned this well identification no. AgLUS-12.

AgLWS 12

RECORD OF WELL COMPLETION

START WELL COMPLETION: DATE 03 / 07 / 03 TIME 14:00

FINISH WELL COMPLETION: DATE 03 / 08 / 03 TIME 12:00

COMPLETION ELEMENT	COMPLETION MATERIALS	AMOUNT (by weight or volume)	FROM feet (or meters)	TO feet (or meters)	TOTAL LENGTH feet (or meters)
PRIMARY FILTER PACK	10-20 COSPREP Silica Sand	10.25 x 50lb bags	44.43	28.0	16.43
SECONDARY FILTER PACK	NONE				
ANNULAR SEALS	1/4" COATED Bentonite PELLETS	1 x 50 lb bucket	28.0	26.0	2.0
	Bentonite Grout	2.5 x 50lb bags	26.0	3.0	23.0
SURFACE SEAL	Quickcrete Concrete	8.0 x 80 lb bags	3.0	0	3.0
WELL PROTECTOR	6" steel Surface Casing		+2.4	-2.6	5.0

COMMENTS: - measurements are in feet below land surface

- well completed by J. Beck.

Figure 16. *Example of a form to record well completion.*

RECORD OF WELL COMPLETION: WELL-COMPLETION DIAGRAM (Single-well site)

SITE ID 394539104305901 STATION NAME AgLus 12
OTHER ID SC003064216CBB
7.5' QUAD Adams Co., CO Sheet 2 COUNTY Adams STATE CO
OWNER Front Range Airport DRILLER USGS
Units used (circle one): (feet) / meters / other _____

Indicate lengths of casing and screen

Indicate casing and screen characteristics

Indicate thickness and types of well-completion materials

Notes

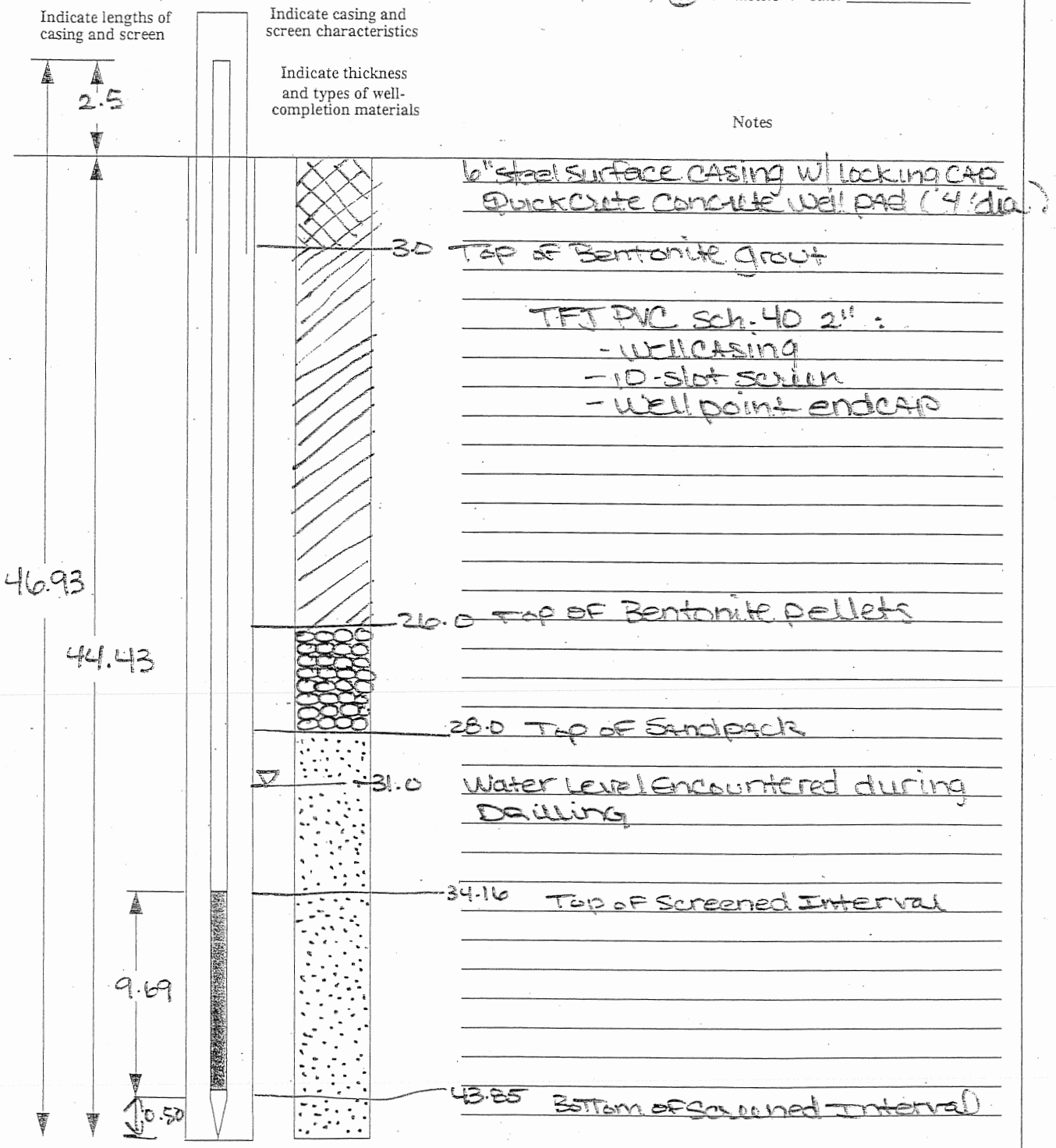


Figure 16. *Example of a form to record well completion--Continued.*

Borehole Log

Site ID 394539104305901
Date(s) Drilled 03/07/03 ; 03/08/03
Coordinates N39° 45' 39.29" , W104° 30' 59.54"
Drilling Co. and Driller. USGS
Drilling method CME 85 + Hollow Stem Auger
Borehole Diameter 9"
Logged by JBeck

Borehole No. AqLUS 12
Pages 1 of 2
Ground Surface Elevation ~~5550+~~ 5528
Total Depth 44.43
Depth to Water 31.0
Static Water Depth 30.95 (meas. ~~3/5/03~~ 3/31/03)

Comments

Depth (ft bls)	Sample type and recovery	Lithologic Description: Color (GSA chart)	Lithologic Description: Grain size %, sorting, roundness, mineral composition %, consolidation (none, poor, well), and moisture content (dry, damp, moist, wet)	Other characteristics and drilling comments
0-5'	cuttings	10YR6/6	dark yellowish orange sandy silt	dry
6-7'	cuttings	10YR6/6	dark yellowish orange dry sandy silt sand - fine gr ~5% of sample. not consolidated	
12-13'	cuttings	10YR5/4	moderate yellowish brown clayey sand sand = Fine to med. grained, subrounded grains, Qtz rich. clay ≈ 40% sand ≈ 50-60% moderately consolidated	damp
15-20'	cuttings	10YR5/4	moderate yellow brown ~~10YR5/4~~ damp. med grained sand. poorly consolidated; Qtz. rich ~~~~	
22-23'	cuttings	10YR5/4	moderate yell. brown damp sand med to coarse to very coarse (1.5mm) grains. Very coarse grains ≤5% sub. angular to sub-rounded grains 85% Qtz 10% Feldspar 5% Lithic frag. poorly consolidated, poorly sorted	
25-28'	cuttings	same	same description as 22'-23'	cuttings
28.5-33.5	core		4.0' run ; 2.0' recovered.	
28.5-29.2	core	10YR7/2	grayish orange med to coarse sand sub-rounded grains mod to poorly sorted poorly consolidated. coarse grains ~5% 85% Qtz 5-10% K-Feldspar ≤5% Lithic frag. dry	

Borehole Log

Site ID
Date(s) Drilled
Coordinates
Drilling Co. and Driller
Drilling method
Borehole Diameter
Logged by

Borehole No. AgLUS 12
Pages 2 of 2
Ground Surface Elevation
Total Depth
Depth to Water
Static Water Depth

Comments

Depth (ft bls)	Sample type and recovery	Lithologic Description: Color (GSA chart)	Lithologic Description: Grain size %, sorting, roundness, mineral composition %, consolidation (none, poor, well), and moisture content (dry, damp, moist, wet)	Other characteristics and drilling comments
29.2-29.8	Core	10YR 7/2	same sand as above in 28.5-29.2 interval highly Fe-stained - damp	
29.8-30.5	core	10YR 7/2	same as above 28.5-29.2 interval damp to moist	
34-35	cuttings	10YR 7/2	grayish orange med to coarse sand, subrounded grains, mod. sorting, poorly consolidated, damp to moist	
39-42	cuttings	10YR 7/2	same as described in 34-35' interval	

Form No.
GWS-25

OFFICE OF THE STATE ENGINEER
COLORADO DIVISION OF WATER RESOURCES

818 Centennial Bldg., 1313 Sherman St., Denver, Colorado 80203
(303) 866-3581

AUTH

WELL PERMIT NUMBER 249373 - - -
DIV. 8 WD 1 DES. BASIN 5 MD 9

APPLICANT

US GEOLOGICAL SURVEY
DENVER FEDERAL CENTER
PO BOX 25046 MS 415
LAKEWOOD, CO 80225-

(303) 236-4882

APPROVED WELL LOCATION
ADAMS COUNTY
SE 1/4 NE 1/4 Section 16
Township 3 S Range 63 W Sixth P.M.

DISTANCES FROM SECTION LINES
1580 Ft. from North Section Line
25 Ft. from East Section Line

UTM COORDINATES
Northing: Easting:

PERMIT TO USE AN EXISTING WELL

CONDITIONS OF APPROVAL

1) This well shall be used in such a way as to cause no material injury to existing water rights. The issuance of this permit does not assure the applicant that no injury will occur to another vested water right or preclude another owner of a vested water right from seeking relief in a civil court action.
2) The construction of this well shall be in compliance with the Water Well Construction Rules 2 CCR 402-2, unless approval of a variance has been granted by the State Board of Examiners of Water Well Construction and Pump Installation Contractors in accordance with Rule 18.
3) Approved pursuant to CRS 37-90-105(1)(d). Use of this well is limited to monitoring water levels and/or water quality sampling.
4) This well must be equipped with a locking cap or seal to prevent well contamination or possible hazards as an open well. The well must be kept capped and locked at all times except during sampling or measuring.
5) Sampling is limited to the alluvium of Lost Creek or its tributaries. The depth of this well shall not exceed 84 feet or the depth at which sandstone or shale is first encountered, whichever comes first.
6) Records of any water level measurements and water quality analyses shall be maintained by the well owner and submitted to the Lost Creek Ground Water Management District and the Division of Water Resources upon request.
7) Upon conclusion of the monitoring program the well owner shall plug this well in accordance with Rule 16 of the Water Well Construction Rules. A Well Abandonment Report must be completed and submitted to the Division of Water Resources within 60 days of plugging.
8) The owner shall mark the well in a conspicuous place with well permit number(s) and name of aquifer as appropriate, and shall take necessary means and precautions to preserve these markings.
9) This well must be constructed within 300 feet of the location specified on this permit.
10) This well must have been constructed by or under the supervision of a licensed well driller or other authorized individual according to the Water Well Construction Rules.
11) A Well Construction and Test Report (Form GWS-31), including lithologic log must be submitted by the individual authorized to construct the well. For non-standard construction, the report must include an as-built drawing showing details such as depth, casing, perforated zones, and a description of the grouting type and interval.

NOTE: Monitoring hole notice no. MH-41893, was acknowledged on March 12, 2003, for construction of this well. The owner has assigned this well identification no. AgLUS-13.

Ag WS 13

RECORD OF WELL COMPLETION

START WELL COMPLETION: DATE 3 / 10 / 03 TIME 12:00

FINISH WELL COMPLETION: DATE 3 / 10 / 03 TIME 16:00

COMPLETION ELEMENT	COMPLETION MATERIALS	AMOUNT (by weight or volume)	FROM feet (or meters)	TO feet (or meters)	TOTAL LENGTH feet (or meters)
PRIMARY FILTER PACK	CO SARGS 10-20 Silica Sand	8 x 50lb bags	84.3	69.5	14.8
SECONDARY FILTER PACK	NONE				
ANNULAR SEALS	¼" coated Bentonite Pellets	1.5 x 50lb bucket	69.5	66.5	3.0
	Bentonite Grout	1.5 x 50lb bags	66.5	3.0	63.5
SURFACE SEAL	Quickcrete concrete	8 x 80lb bags	3.0	0	3.0
WELL PROTECTOR	6" steel surface casing	1	2.3	2.7	5.0

COMMENTS: - measurements are in feet below Land Surface
- well completed by J Beck.

Figure 16. *Example of a form to record well completion.*

RECORD OF WELL COMPLETION: WELL-COMPLETION DIAGRAM (Single-well site)

SITE ID 394731104260001 STATION NAME AqUS13
OTHER ID SC00306316 BDD
7.5' QUAD Adams Co., CO Sheet 2 COUNTY Adams STATE CO
OWNER Federal Aviation Admin. (FAA) DRILLER USGS
Units used (circle one) (feet) / meters / other

Indicate lengths of casing and screen

Indicate casing and screen characteristics

Indicate thickness and types of well-completion materials

Notes

2.5

6" steel surface casing w/ locking cap
Quickcrete Concrete Wellpad 4'x4'x4"

30 Top of Bentonite Grout

2" TFJ PVC Sch 40:
- well casing
- 10-slot screen
- well point endcap

86.8

66.5 Top of Bentonite pellets

84.3

68.7 Water level encountered during drilling

69.5 Top of Sandpack

74.5 Top of screened interval

9.72

83.72 Bottom of Screened Interval

0.50

Figure 16. *Example of a form to record well completion--Continued.*

Borehole Log

Site ID 394731104260001
Date(s) Drilled 3/10/03
Coordinates N 33° 47' 31.75", W 104° 26' 00.38"
Drilling Co. and Driller USGS
Drilling method CME 85 Hollow stem Auger
Borehole Diameter 9"
Logged by J Beck

Borehole No. AgWS13
Pages 1 of 2
Ground Surface Elevation ~~5424~~ 5409
Total Depth 84.30
Depth to Water 69.55
Static Water Depth 67.2 (meas 3-31-03)

Comments

Depth (ft bls)	Sample type and recovery	Lithologic Description: Color (GSA chart)	Lithologic Description: Grain size %, sorting, roundness, mineral composition %, consolidation (none, poor, well), and moisture content (dry, damp, moist, wet)	Other characteristics and drilling comments
0-5'	cuttings	10YR 7/4	grayish orange dry silt	
6-7'	cuttings	10YR 6/6	dark yell. orange, dry silt dry to damp (4.5-8.5' bls)	
10-15'	cuttings	10YR 6/6	dark yell. orange damp clay	
16-17'	cuttings	10YR 4/2	Dark yell. brown damp clay	
20-25'	cuttings	same	same descr. as 16-17' bls cuttings damp to moist. Drilled very soft	
23.5-28.5	core		4.0' ~~Core~~ Run, 2.0' Recovered.	
23.5-25.5	core	10YR 6/6	Dark yell. orange damp clayey sand, clay minerals ≤5% (sand) Fine gr., well rounded, well sorted poorly consolidated. 90% Qtz 5% ~~Feldspar~~ ≤5% Lithic fragments	
30-35'	cuttings	10YR 6/6	dark yell. orange clayey sand., damp	
35-40'	cuttings	10YR 5/4	Mod. yell. brown clayey sand. drilling very soft	
40-41'	cuttings	10YR 5/4	Mod. yell. brown damp sand (clayey = clay minerals ≤5% in sample) med to coarse gr. very coarse gr ≈ 5% (0.5cm) mod sorted, w/ ~~interspersed~~ very coarse grain. subrounded grains. >80% Qtz	
45-50'	cuttings	10YR 5/4	Moderate yellowish brown damp coarse sand.	

Borehole Log

Site ID
Date(s) Drilled
Coordinates
Drilling Co. and Driller
Drilling method
Borehole Diameter
Logged by

Borehole No. AgWS 13
Pages 2 of 2
Ground Surface Elevation
Total Depth
Depth to Water
Static Water Depth

Comments

Depth (ft bls)	Sample type and recovery	Lithologic Description: Color (GSA chart)	Lithologic Description: Grain size %, sorting, roundness, mineral composition %, consolidation (none, poor, well), and moisture content (dry, damp, moist, wet)	Other characteristics and drilling comments
51-52'	cuttings	10YR5/4	mod. yell. brown. damp med to very coarse (1.5cm) sand. poorly sorted. poorly consolidated. large qtz & feldspar grains (7 1cm) clay minerals ~5% composition. 80% qtz, 15% feldspar ~5% lithic fragments. subangular grains.	
58.5-62.5	core		4.0' Run, 3.0' recovered..	
58.5-61.5	core	10YR 7/4	grayish orange. dry to damp sand. poorly sorted, poorly consolidated subangular grains. med to coarse to very coarse qtz. (0.5cm to 5.0 cm) cobble size grains. 70% qtz, 30% feldspar	
65-70'	cuttings	same	same descr. as 58.5 - 61.5 core sample. Damp	
71-72'	cuttings	10YR 5/4	mod. yell. brown damp coarse to very coarse (0.5 cm) sand. same mineral composition as 58.5-61.5' b/s core. slightly clayey (~5-10% clay minerals)	
75-80'	cuttings	10YR5/4	same descr. as 71-72' cuttings	
80-81'	cuttings	10YR5/4	mod. yell. brown sandy clay damp. clay minerals ~20% of composition. sand = same composition as in 58.5-61.5 core sample.	

Form No.
GWS-25

OFFICE OF THE STATE ENGINEER
COLORADO DIVISION OF WATER RESOURCES

818 Centennial Bldg., 1313 Sherman St., Denver, Colorado 80203
(303) 866-3581

AUTH

WELL PERMIT NUMBER 250289 - - -
DIV. 1 WD 1 DES. BASIN MD

APPLICANT

US GEOLOGICAL SURVEY
DENVER FEDERAL CENTER
PO BOX 25046 MS 415
LAKEWOOD, CO 80215-

(303) 236-4882

APPROVED WELL LOCATION
ADAMS COUNTY
SE 1/4 SE 1/4 Section 32
Township 2 S Range 64 W Sixth P.M.

DISTANCES FROM SECTION LINES
1440 Ft. from South Section Line
10 Ft. from East Section Line

UTM COORDINATES
Northing: Easting:

PERMIT TO USE AN EXISTING WELL

ISSUANCE OF THIS PERMIT DOES NOT CONFER A WATER RIGHT

CONDITIONS OF APPROVAL

1) This well shall be used in such a way as to cause no material injury to existing water rights. The issuance of this permit does not assure the applicant that no injury will occur to another vested water right or preclude another owner of a vested water right from seeking relief in a civil court action.
2) The construction of this well shall be in compliance with the Water Well Construction Rules 2 CCR 402-2, unless approval of a variance has been granted by the State Board of Examiners of Water Well Construction and Pump Installation Contractors in accordance with Rule 18.
3) Approved pursuant to CRS 37-92-602(3)(b)(I) for uses as described in CRS 37-92-602(1)(f). Use of this well is limited to monitoring water levels and/or water quality sampling.
4) Approved for the use of an existing well acknowledged for construction under monitoring hole notice MH-41691, and known as AGLUS14.
5) This well must be equipped with a locking cap or seal to prevent well contamination or possible hazards as an open well. The well must be kept capped and locked at all times except during sampling or measuring.
6) Records of water level measurements and water quality analyses shall be maintained by the well owner and submitted to the Division of Water Resources upon request.
7) Upon conclusion of the monitoring program the well owner shall plug this well in accordance with Rule 16 of the Water Well Construction Rules. A Well Abandonment Report must be completed and submitted to the Division of Water Resources within 60 days of plugging.
8) The owner shall mark the well in a conspicuous place with well permit number(s) and name of aquifer as appropriate, and shall take necessary means and precautions to preserve these markings.
9) This well must have been constructed by or under the supervision of a licensed well driller or other authorized individual according to the Water Well Construction Rules.
10) This well must be located not more than 200 feet from the location specified on this permit.

Agwis 14

RECORD OF WELL COMPLETION

START WELL COMPLETION: DATE 1 / 18 / 03 TIME 8:00

FINISH WELL COMPLETION: DATE 1 / 18 / 03 TIME 10:30

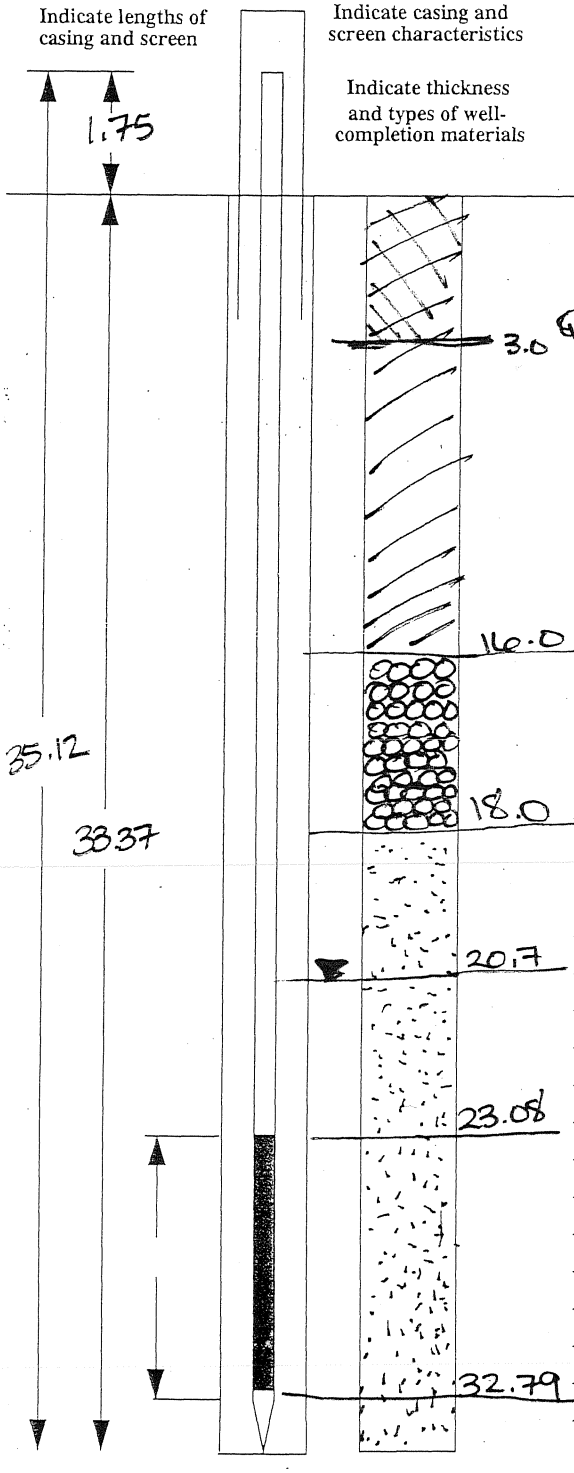
COMPLETION ELEMENT	COMPLETION MATERIALS	AMOUNT (by weight or volume)	FROM feet (or meters)	TO feet (or meters)	TOTAL LENGTH feet (or meters)
PRIMARY FILTER PACK	COSPRGS 10-20 SILICA Sand	11 x 50lb bags	33.37	18.0	
SECONDARY FILTER PACK	None				
ANNULAR SEALS	1/4" coated Bentonite pellets	1x50lb bucket	18.0	16.0	2.0
	Bentonite Grout	~~13~~ 3 x 50lb bags	16.0	3.0	13.0
SURFACE SEAL	Quickcrete Concrete	8 x 80lb bags	3.0	0	3.0
WELL PROTECTOR	6" Steel surface casing	1	3.0	-2.0	5.0

COMMENTS: - measurements are in Feet below Land surface
— Well completed by JBeck

Figure 16. *Example of a form to record well completion.*

RECORD OF WELL COMPLETION: WELL-COMPLETION DIAGRAM (Single-well site)

SITE ID 394947104335201 STATION NAME AgLUS 14
OTHER ID SC002016432 DDB
7.5' QUAD Adams Co., CO Sheet 2 COUNTY Adams STATE CO
OWNER James / Timothy Mestepey DRILLER USGS
Units used (circle one): (feet) / meters / other _____



Notes

6" steel surface casing w/ locking cap
2" sch 40 TFJ PVC well casing
2" sch 40 TFJ PVC 10 slot screen
TFJ well point end cap
Quickcrete concrete wellpad 4' dia.
Bentonite grout from 16.0 to surface (3.0' bls)
16.0 Top of Bentonite pellets
18.0 Top of 10-20 silica sandpack
20.7 Water level encountered during drilling
23.08 Top of Screened Interval
32.79 Bottom of screened interval

Figure 16. *Example of a form to record well completion--Continued.*

Borehole Log

Site ID 394947104335201
Date(s) Drilled 1-17-03, 1-18-03
Coordinates N39 49'47.6", W104 33' ~~352.9~~"
Drilling Co. and Driller USGS CME85
Drilling method CME 85 Hollow Stem Auger
Borehole Diameter 9"
Logged by JBeck

Borehole No. AgLUS 14
Pages 1 of 1
Ground Surface Elevation ~~5450~~ 5390
Total Depth 33.37
Depth to Water 20.7
Static Water Depth 20.14 (meas 4/3/03)

Comments

Depth (ft bls)	Sample type and recovery	Lithologic Description: Color (GSA chart)	Lithologic Description: Grain size %, sorting, roundness, mineral composition %, consolidation (none, poor, well), and moisture content (dry, damp, moist, wet)	Other characteristics and drilling comments
2'-4'	cuttings		mod. brown windblown silt	
5-6'	cuttings		silty sand, damp	
8.5-13.5	core		5.0' Recovered.	
8.5-11.3		10YR 7/4	grayish orange, damp sand, fine-med gr- homogeneous throughout (wrt grainsize, sorting, compactness) horiz. zones of Fe staining	
11.3-11.5			same description as above, prominent Fe-stained zone.	
11.5-13.5			same sand as 8.5-11.3' interval horiz. banding of Fe-oxides slightly more compact.	
17-19'	cuttings		cuttings containing more clay (clayey sand)	
22-24	cuttings		same sandy clay / clayey sand	
23.5-28.5	core		3.5' Recovered	
23.5-25.1		10YR5/4 10YR6/6	moderate yellowish Brown to dark yellowish orange, damp clayey sand sand grains are fine-med in size	
25.1-27.0		10YR 7/4 10YR6/2	grayish orange to pale yellowish brown damp sand fine-med. grained Mod-well sorted, Mod-well rounded Fe-staining zones present	
32-34	cuttings		moist to wet sandy clay water initially meas. @ 33.5' ~~f~~ came up to 30.9'	encountered ~~wet~~ water during 30-35' interval water level meas. = 33.5

Form No.
GWS-25

OFFICE OF THE STATE ENGINEER
COLORADO DIVISION OF WATER RESOURCES

818 Centennial Bldg., 1313 Sherman St., Denver, Colorado 80203
(303) 866-3581

AUTH

WELL PERMIT NUMBER 250291 - -
DIV. 1 WD 1 DES. BASIN MD

APPLICANT

US GEOLOGICAL SURVEY
DENVER FEDERAL CENTER
PO BOX 25046 MS 415
LAKEWOOD, CO 80215-

(303) 236-4882

APPROVED WELL LOCATION
ADAMS COUNTY
NE 1/4 NW 1/4 Section 31
Township 1 S Range 64 W Sixth P.M.

DISTANCES FROM SECTION LINES
3 Ft. from North Section Line
2572 Ft. from West Section Line

UTM COORDINATES
Northing: Easting:

PERMIT TO USE AN EXISTING WELL

ISSUANCE OF THIS PERMIT DOES NOT CONFER A WATER RIGHT

CONDITIONS OF APPROVAL

1) This well shall be used in such a way as to cause no material injury to existing water rights. The issuance of this permit does not assure the applicant that no injury will occur to another vested water right or preclude another owner of a vested water right from seeking relief in a civil court action.
2) The construction of this well shall be in compliance with the Water Well Construction Rules 2 CCR 402-2, unless approval of a variance has been granted by the State Board of Examiners of Water Well Construction and Pump Installation Contractors in accordance with Rule 18.
3) Approved pursuant to CRS 37-92-602(3)(b)(I) for uses as described in CRS 37-92-602(1)(f). Use of this well is limited to monitoring water levels and/or water quality sampling.
4) Approved for the use of an existing well acknowledged for construction under monitoring hole notice MH-41647, and known as AGLUS17.
5) This well must be equipped with a locking cap or seal to prevent well contamination or possible hazards as an open well. The well must be kept capped and locked at all times except during sampling or measuring.
6) Records of water level measurements and water quality analyses shall be maintained by the well owner and submitted to the Division of Water Resources upon request.
7) Upon conclusion of the monitoring program the well owner shall plug this well in accordance with Rule 16 of the Water Well Construction Rules. A Well Abandonment Report must be completed and submitted to the Division of Water Resources within 60 days of plugging.
8) The owner shall mark the well in a conspicuous place with well permit number(s) and name of aquifer as appropriate, and shall take necessary means and precautions to preserve these markings.
9) This well must have been constructed by or under the supervision of a licensed well driller or other authorized individual according to the Water Well Construction Rules.
10) This well must be located not more than 200 feet from the location specified on this permit.

RECORD OF WELL COMPLETION Ag LUS17 Page 1 of 2

START WELL COMPLETION: DATE 1 / 11 / 03 TIME 9:30 am

FINISH WELL COMPLETION: DATE 1 / 12 / 03 TIME 8:15 am

COMPLETION ELEMENT	COMPLETION MATERIALS	AMOUNT (by weight or volume)	FROM (feet or meters)	TO (feet or meters)	TOTAL LENGTH (feet or meters)
PRIMARY FILTER PACK	10-20 Silica Sand	10-50lb bags	82.74	70.4	12.34
SECONDARY FILTER PACK	none				
ANNULAR SEALS	¼" Coated Bentonite pellets	1-50lb pail	70.4	68.8	1.6
	Bentonite chips	1-50lb bag	68.8	67.6	1.2
	Bentonite grout	8½-50lb bags	67.6	0.5	67.1
SURFACE SEAL	Quickcrete concrete	9-50lb bags	0.5	0.0	0.5
WELL PROTECTOR	6" steel w/		2.5	-2.5	5.0
	locking cap				

COMMENTS: Measurements are in feet below landsurface (bls)
Well installed by S. Paschke
Cut 0.19 ft off top of well after completion

Figure 16. *Example of a form to record well completion.*

RECORD OF WELL COMPLETION: WELL-COMPLETION DIAGRAM (Single-well site)

SITE ID 395540104353601 STATION NAME Ag LUS - 17
OTHER ID
7.5' QUAD
OWNER David Vetter COUNTY Adams STATE CO
DRILLER USGS
Units used (circle one): (feet) / meters / other

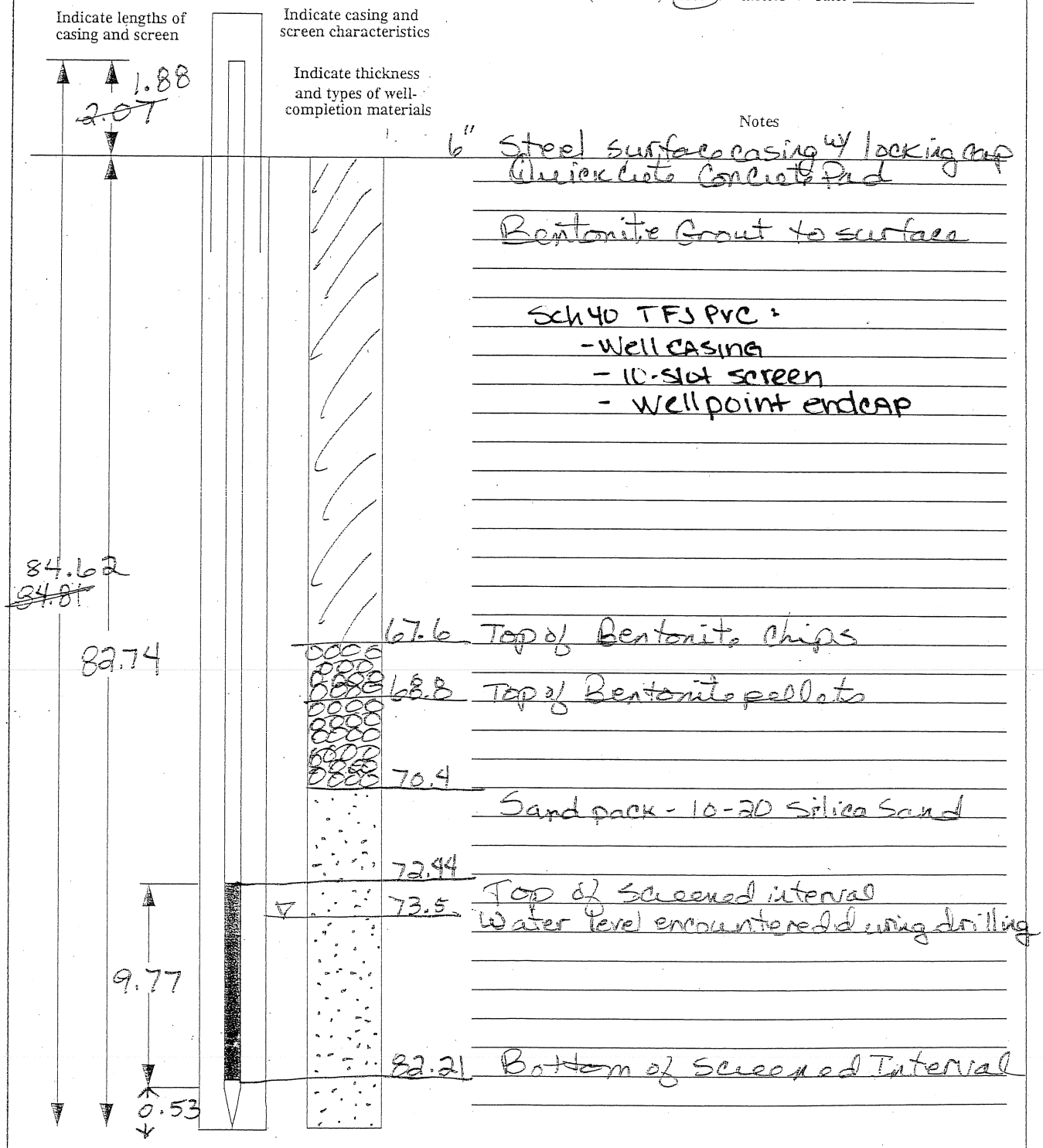


Figure 16. *Example of a form to record well completion--Continued.*

Borehole Log

Site ID 395540104353601
Date(s) Drilled 1/10/03 - 1/11/03
Coordinates N39°55'40.216" W104°35'36.04"
Drilling Co. and Driller USGS
Drilling method CME 85 Hollowstem Auger
Borehole Diameter 9"
Logged by JBECK / SPASCHKE

Borehole No. AgLUS-17
Pages 1 of 3
Ground Surface Elevation 5227
Total Depth 82.74
Depth to Water 65.96 (4/03)
Static Water Depth

Comments

Depth (ft bls)	Sample type and recovery	Lithologic Description: Color (GSA chart)	Lithologic Description: Grain size %, sorting, roundness, mineral composition %, consolidation (none, poor, well), and moisture content (dry, damp, moist, wet)	Other characteristics and drilling comments
3.5-8.5	core		5.0 / 5.0' Recovered	
3.5-8.5	core	10YR7/4 10YR6/6	grayish Orange to dark yellowish orange silty sand. mcd rounded Mod. sorting, dry. Fines upwards.	
10-12'	cuttings	10YR6/6	dark yellowish orange. damp silty sand.	
13.5-18.5	core		5.0 / 5.0' Recovered	
13.5-14.4	core	10YR6/6	dark yellowish Orange ~~silty sand~~ sandy silt damp	
14.4-17.6 18.5	core	5Y 4/1 10YR6/2	olive gray damp claystone w/ calcite zones. (weak HCl reaction) weathered, Fe-stained color changes to pale yellowish brown at 17.6 - 18.5' BLS.	
22-24'	cuttings	~~10~~ 5YR5/4	moderate yellowish brown damp claystone	
23.5-28.5	core		5.0 / 5.0' Recovered	
23.5-28.5	core	5Y 4/1	olive gray claystone, damp, weathered. Zones OF Fe-staining (along fractures). Fe-stained zones → horiz banding from 23.5-26.3' BLS	
32-34'	cuttings	10YR5/4	moderate yellowish brown moist claystone.	

Borehole Log

Site ID _____
Date(s) Drilled _____
Coordinates _____
Drilling Co. and Driller _____
Drilling method _____
Borehole Diameter _____
Logged by _____

Borehole No. AgUS-17
Pages 2 of 3
Ground Surface Elevation _____
Total Depth _____
Depth to Water _____
Static Water Depth _____

Comments _____

Depth (ft bls)	Sample type and recovery	Lithologic Description: Color (GSA chart)	Lithologic Description: Grain size %, sorting, roundness, mineral composition %, consolidation (none, poor, well), and moisture content (dry, damp, moist, wet)	Other characteristics and drilling comments
37-38'	cuttings	10YR5/4	moderate yellowish brown claystone	
45-47	cuttings	10YR5/4	moderate yellowish brown claystone - moist	
52-54	cuttings	10YR5/4	moderate yellowish brown moist claystone	
57-59	cuttings	10YR5/4	moderate yellowish brown moist claystone.	
62-64	cuttings	10YR5/4	mod. yell. brown moist claystone	
63.5-68.5	core		3.0 / 3.0' Recovered.	
63.5-65.2	core	10YR5/4	moderate yellowish brown damp to moist laminated claystone poorly consolidated. thin interbedded sand & clay w/ Fe-staining in horizontal bands.	
65.2-66.5	core	N4 5Y4/1	medium dark gray to olive gray damp, laminated, thinly bedded claystone w/ Fe-staining along bedding planes.	
67-68'	cuttings	10YR4/2	dark yellowish brown moist claystone.	
70-72'	cuttings	10YR4/2	dark yellowish brown damp to moist claystone	
73.5-78.5	core		5.0 / 5.0' Recovered.	
73.5-78.5	core	10YR4/2	Dark yellowish brown wet sandstone Fine-grained. well sorted, poorly consolidated 1-2cm thick beds w/ Fe-staining	

Borehole Log

Site ID _____
Date(s) Drilled _____
Coordinates _____
Drilling Co. and Driller _____
Drilling method _____
Borehole Diameter _____
Logged by _____

Borehole No. AgLLS-17
Pages 3 of 3
Ground Surface Elevation _____
Total Depth _____
Depth to Water _____
Static Water Depth _____

Comments _____

Depth (ft bls)	Sample type and recovery	Lithologic Description: Color (GSA chart)	Lithologic Description: Grain size %, sorting, roundness, mineral composition %, consolidation (none, poor, well), and moisture content (dry, damp, moist, wet)	Other characteristics and drilling comments
			Along bedding planes, homogeneous in color & composition	
78.5-83.5	core		3.0 / 3.0' Recovered	
78.5-81.1	core	10YR4/2 10YR6/6	Dark yellowish brown wet Sandstone, same composition as in 73.5-78.5' interval. gradational color change from to Dark yellowish orange toward 81.5' BLS.. due to increased Fe-staining in this zone.	
81.1-81.5	core	N2 N1	Grayish Black claystone with Black organic matter. Poorly consolidated, Moist.	

Form No.
GWS-25

OFFICE OF THE STATE ENGINEER
COLORADO DIVISION OF WATER RESOURCES

818 Centennial Bldg., 1313 Sherman St., Denver, Colorado 80203
(303) 866-3581

56

1354

WELL PERMIT NUMBER 249352 - -

DIV. 8 WD 1 DES. BASIN 5 MD 9

APPLICANT

US GEOLOGICAL SURVEY
DENVER FEDERAL CENTER
PO BOX 25046 MS 415
LAKEWOOD, CO 80215-

(303) 236-4882

APPROVED WELL LOCATION
ADAMS COUNTY
NW 1/4 NW 1/4 Section 12
Township 2 S Range 64 W Sixth P.M.

DISTANCES FROM SECTION LINES
10 Ft. from North Section Line
10 Ft. from West Section Line

UTM COORDINATES
Northing: Easting:

PERMIT TO USE AN EXISTING WELL

CONDITIONS OF APPROVAL

1) This well shall be used in such a way as to cause no material injury to existing water rights. The issuance of this permit does not assure the applicant that no injury will occur to another vested water right or preclude another owner of a vested water right from seeking relief in a civil court action.
2) The construction of this well shall be in compliance with the Water Well Construction Rules 2 CCR 402-2, unless approval of a variance has been granted by the State Board of Examiners of Water Well Construction and Pump Installation Contractors in accordance with Rule 18.
3) Approved pursuant to CRS 37-90-105(1)(d). Use of this well is limited to monitoring water levels and/or water quality sampling.
4) This well must be equipped with a locking cap or seal to prevent well contamination or possible hazards as an open well. The well must be kept capped and locked at all times except during sampling or measuring.
5) Sampling is limited to the alluvium of Lost Creek or its tributaries. The depth of this well shall not exceed 46 feet or the depth at which sandstone or shale is first encountered, whichever comes first.
6) Records of any water level measurements and water quality analyses shall be maintained by the well owner and submitted to the Lost Creek Ground Water Management District and the Division of Water Resources upon request.
7) Upon conclusion of the monitoring program the well owner shall plug this well in accordance with Rule 16 of the Water Well Construction Rules. A Well Abandonment Report must be completed and submitted to the Division of Water Resources within 60 days of plugging.
8) The owner shall mark the well in a conspicuous place with well permit number(s) and name of aquifer as appropriate, and shall take necessary means and precautions to preserve these markings.
9) This well must be constructed within 300 feet of the location specified on this permit.
10) This well must have been constructed by or under the supervision of a licensed well driller or other authorized individual according to the Water Well Construction Rules.
11) A Well Construction and Test Report (Form GWS-31), including lithologic log must be submitted by the individual authorized to construct the well. For non-standard construction, the report must include an as-built drawing showing details such as depth, casing, perforated zones, and a description of the grouting type and interval.

NOTE: Monitoring hole notice no. MH-41649, was acknowledged on January 2, 2003, for construction of this well. The owner has assigned this well identification no. AgLUS18.

RECORD OF WELL COMPLETION AgLLIS18 Page 1 of 2

START WELL COMPLETION: DATE 1 / 12 / 03 TIME 10:45 AM

FINISH WELL COMPLETION: DATE 1 / 12 / 03 TIME 14:15

COMPLETION ELEMENT	COMPLETION MATERIALS	AMOUNT (by weight or volume)	FROM (feet or meters)	TO (feet or meters)	TOTAL LENGTH (feet or meters)
PRIMARY FILTER PACK	10-20 Silica Sand	12-50lb bags	46.2	33.5	12.7
SECONDARY FILTER PACK	none				
ANNULAR SEALS	1/4" coated Bentonite pellets	1-50lb pail	33.5	31.0	2.5
	Bentonite Chips	1-50lb bag	31.0	27.5	3.5
	Bentonite grout	4-50lb bags	27.5	0.5	27.0
SURFACE SEAL	Quick Crete Concrete	7-50lb bags	0.5	0.0	0.5
			2.7	2.3	
WELL PROTECTOR	6" steel casing		~~2.5~~	~~-2.5~~	5.0

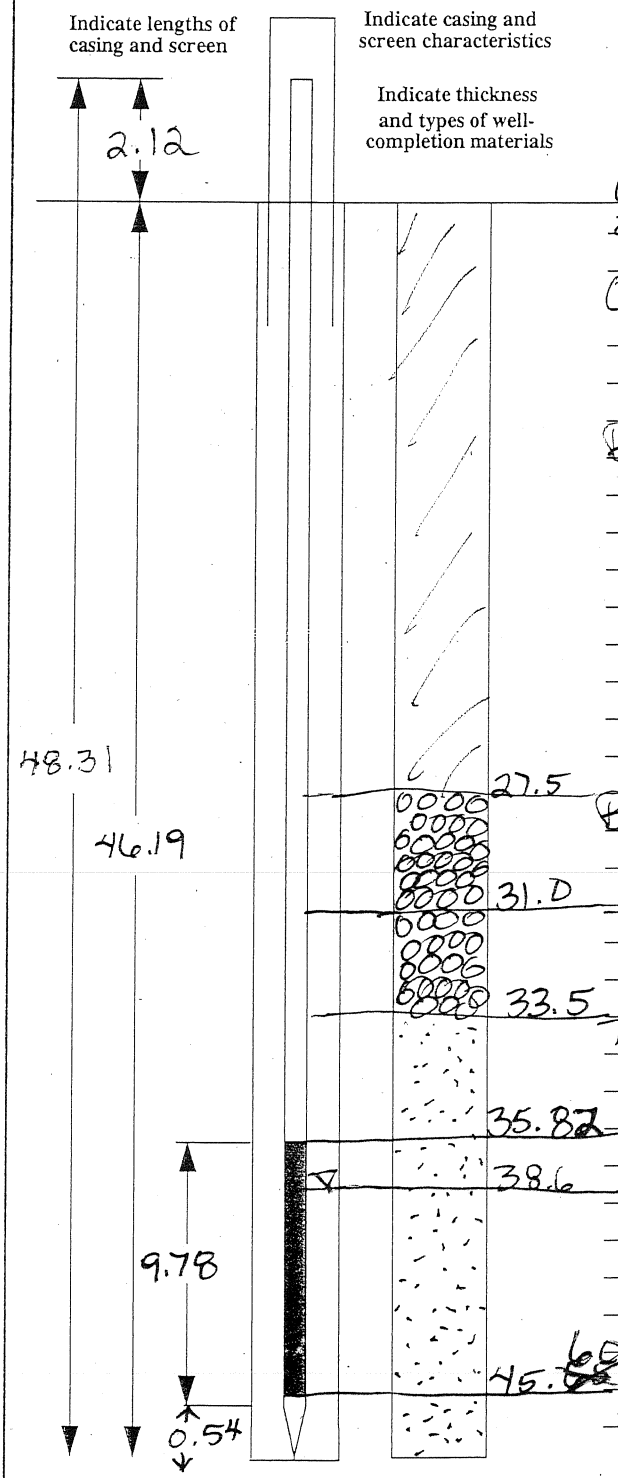
COMMENTS: Measurements are below land surface (bls)
Well Completed by S. Paschke

Figure 16. *Example of a form to record well completion.*

Page 2 of 2

RECORD OF WELL COMPLETION: WELL-COMPLETION DIAGRAM (Single-well site)

SITE ID 395352104302801 STATION NAME Ag LUS-18
OTHER ID SC002016412AAA
7.5' QUAD Adams Co. CO, Sheet2 COUNTY Adams STATE CO
OWNER Robert Smith DRILLER USGS
Units used (circle one): (feet) / meters / other _____



Notes

6" steel surface casing
2" Sch. 40 PVC pipe - 10 Slot
Quickcrete concrete pad 4ft diam.
Bentonite Grout
Bentonite Chips
Top of Bentonite pellets - 1/4" coated + hydrated
Top of Sand - 10-20 Silica Sand
Top of screen
Water level encountered during drilling
Bottom of Screen

Figure 16. *Example of a form to record well completion--Continued.*

Borehole Log

Site ID 395352104328O1
Date(s) Drilled 1-12-03
Coordinates N39° 53'52.3", W104°30' 28.6"
Drilling Co. and Driller USGS
Drilling method CME 85 Hollow Stem Auger
Borehole Diameter 9"
Logged by S. PASchke, J Beck

Borehole No. AgCUS-18
Pages 1 of 3
Ground Surface Elevation 5455 ~~5208~~
Total Depth 46.19 bls
Depth to Water 38.6 bls
Static Water Depth 38.53 bls (meas 4/3/03)

Comments

Depth (ft bls)	Sample type and recovery	Lithologic Description: Color (GSA chart)	Lithologic Description: Grain size %, sorting, roundness, mineral composition %, consolidation (none, poor, well), and moisture content (dry, damp, moist, wet)	Other characteristics and drilling comments
3.5-8.5	core		5.0' Recovery	
3.5-4.2	core	10YR5/4	Moderate yellowish brown sandy silt calcareous deposits (strong Rxn w/HCL) sand makes up ~10% total composition sand = fine grained	
4.2-8.5	core	10YR7/4 to 10YR4/2	same composition as described in 3.5-4.2' interval, color change Noticed: grayish orange (4.2-7.0') dark yellowish brown (7.0-8.5')	
10-13'	cuttings	10YR5/4	Mod. yellowish brown silty sand. Fine to very coarse (~1cm), angular to sub-angular grains. calcareous coating on some larger grains. Qtz ~ 80% Feldspar ~ 15%	
13.5-18.5	core		5.0' Run, 3.5 Recovered	
13.5-17.0	~~10YR~~ core	10YR6/6	dark yellowish orange unconsolidated sand & small gravel. coarse, well sorted sand from 13.5-14.0 pebble size grains from 14-17'. poorly sorted mineral composition ~~consis~~ consistent throughout, Qtz 60% Feldspar 30%, Lithic Frag ~10%	
21-23'	cuttings	10YR4/2	dark yellowish Brown moist sand. Med-Very coarse grained (0.5cm) Qtz & Feldspar Rich, unconsolidated/ sub-angular grains	

Borehole Log

Site ID
Date(s) Drilled
Coordinates
Drilling Co. and Driller
Drilling method
Borehole Diameter
Logged by

Borehole No. AgUS-18
Pages 2 of 3
Ground Surface Elevation
Total Depth
Depth to Water
Static Water Depth

Comments

Depth (ft bls)	Sample type and recovery	Lithologic Description: Color (GSA chart)	Lithologic Description: Grain size %, sorting, roundness, mineral composition %, consolidation (none, poor, well), and moisture content (dry, damp, moist, wet)	Other characteristics and drilling comments
26-27	cuttings	10YR 4/2	Dark yellowish Brown same as described in 21-23' cuttings	
28.5-33.5	core		5.0' Run, 4.0' Recovered	
28.5-32.5	core	10YR 6/2	pale yellowish brown denver Formation Sandstone. 28.5-31.7' = Fine grained, well sorted, thinly bedded mod-poorly consolidated, dry ~ 15% lithic frag. 30% Feldspar, 55% Qtz. 31.7-32.5 = well cemented (no HCl rxn) same mineral composition as 28.5-31.7	
34-38'	cuttings	10YR 6/2	pale yellowish brown dry same description as 31.7-32.5 strong HCl Rxn - possible caliche zone in Sandstone bedrock...	
38.5-43.5	core		5.0' Run / 5.0' Recovery.	
38.5-43.5	core	10YR 6/6 10YR 5/4	dark yellowish orange to moderate yellowish brown wet sandstone poorly consolidated homogeneous composition/texture throughout well sorted well rounded. Qtz 60%, lithic frags 10% feldspar - 30%	
43.5-48.5	core		5.0' Run ~~5.0~~ 4.0' Recovered..	
43.5-~~47.0~~ 48.0	core	10YR 6/6	Dark yellowish orange wet sandstone sub-Angular grains, moderately sorted. some fe-stained zones & organic matter at contact between sandstone & underlying claystone. Mineral composition same as 38.5-43.5	

Borehole Log

Site ID
Date(s) Drilled
Coordinates
Drilling Co. and Driller
Drilling method
Borehole Diameter
Logged by

Borehole No. AqLUS-18
Pages 3 of 3
Ground Surface Elevation
Total Depth
Depth to Water
Static Water Depth

Comments

Depth (ft bls)	Sample type and recovery	Lithologic Description: Color (GSA chart)	Lithologic Description: Grain size %, sorting, roundness, mineral composition %, consolidation (none, poor, well), and moisture content (dry, damp, moist, wet)	Other characteristics and drilling comments
45.0-47.0	core	N5	medium gray claystone - weathered	
47.0-47.5	core	10YR7/4	grayish orange sandstone well sorted, fine grained well rounded - moderately consolidated lithic fragments 5-10% feldspar 20-30% Qtz ~60%	

Form No. GWS-25

OFFICE OF THE STATE ENGINEER
COLORADO DIVISION OF WATER RESOURCES

818 Centennial Bldg., 1313 Sherman St., Denver, Colorado 80203
(303) 866-3581

1354

WELL PERMIT NUMBER 249302 - -

DIV. 8 WD 1 DES. BASIN 5 MD 9

APPLICANT

US GEOLOGICAL SURVEY
DENVER FEDERAL CENTER
PO BOX 25046 MS 415
LAKEWOOD, CO 80215-

(303) 236-4882

APPROVED WELL LOCATION
ADAMS COUNTY
NW 1/4 NE 1/4 Section 11
Township 3 S Range 64 W Sixth P.M.

DISTANCES FROM SECTION LINES
10 Ft. from North Section Line
2380 Ft. from East Section Line

UTM COORDINATES
Northing: Easting:

PERMIT TO USE AN EXISTING WELL

CONDITIONS OF APPROVAL

1) This well shall be used in such a way as to cause no material injury to existing water rights. The issuance of this permit does not assure the applicant that no injury will occur to another vested water right or preclude another owner of a vested water right from seeking relief in a civil court action.
2) The construction of this well shall be in compliance with the Water Well Construction Rules 2 CCR 402-2, unless approval of a variance has been granted by the State Board of Examiners of Water Well Construction and Pump Installation Contractors in accordance with Rule 18.
3) Approved pursuant to CRS 37-90-105(1)(d). Use of this well is limited to monitoring water levels and/or water quality sampling.
4) This well must be equipped with a locking cap or seal to prevent well contamination or possible hazards as an open well. The well must be kept capped and locked at all times except during sampling or measuring.
5) Sampling is limited to the alluvium of Lost Creek or its tributaries. The depth of this well shall not exceed 70 feet or the depth at which sandstone or shale is first encountered, whichever comes first.
6) Records of any water level measurements and water quality analyses shall be maintained by the well owner and submitted to the Lost Creek Ground Water Management District and the Division of Water Resources upon request.
7) Upon conclusion of the monitoring program the well owner shall plug this well in accordance with Rule 16 of the Water Well Construction Rules. A Well Abandonment Report must be completed and submitted to the Division of Water Resources within 60 days of plugging.
8) The owner shall mark the well in a conspicuous place with well permit number(s) and name of aquifer as appropriate, and shall take necessary means and precautions to preserve these markings.
9) This well must be constructed within 300 feet of the location specified on this permit.
10) This well must have been constructed by or under the supervision of a licensed well driller or other authorized individual according to the Water Well Construction Rules.
11) A Well Construction and Test Report (Form GWS-31), including lithologic log must be submitted by the individual authorized to construct the well. For non-standard construction, the report must include an as-built drawing showing details such as depth, casing, perforated zones, and a description of the grouting type and interval.

NOTE: Monitoring hole notice no. MH-41849, was acknowledged on February 28, 2003, for construction of this well. The owner has assigned this well identification no. AgLUS-21.

AgLUS-21

RECORD OF WELL COMPLETION

START WELL COMPLETION: DATE 02 / 27 / 2003 TIME 1300

FINISH WELL COMPLETION: DATE 02 / 28 / 2003 TIME 900

COMPLETION ELEMENT	COMPLETION MATERIALS	AMOUNT (by weight or volume)	FROM feet (or meters)	TO feet (or meters)	TOTAL LENGTH feet (or meters)
PRIMARY FILTER PACK	COSPRGS 10-20 Silica Sand	6.5 x 50 lb bags	28.31	15.70	12.61
SECONDARY FILTER PACK	None				
ANNULAR SEALS	1/4" coated bentonite pellets	1 x 50 lb bucket	15.70	13.50	2.2
	bentonite grout	2.5 x 50 lb bags	13.50	4.0	9.50
SURFACE SEAL	Quickcrete Concrete	8 x 80 lb bags	4.0	0	4.0
WELL PROTECTOR	6" steel surface casing w/ locking cap	1	2.85	-2.15	

COMMENTS: - measurements are in Feet below Land Surface (BLS)

- well completed by S. PASCHKE.

Figure 16. *Example of a form to record well completion.*

RECORD OF WELL COMPLETION: WELL-COMPLETION DIAGRAM (Single-well site)

SITE ID 394838104310001 STATION NAME

OTHER ID ~~USGS~~ AgLUS 21

7.5' QUAD

OWNER Kent Crisman COUNTY Adams STATE CO

DRILLER USGS

Units used (circle one): (feet) / meters / other

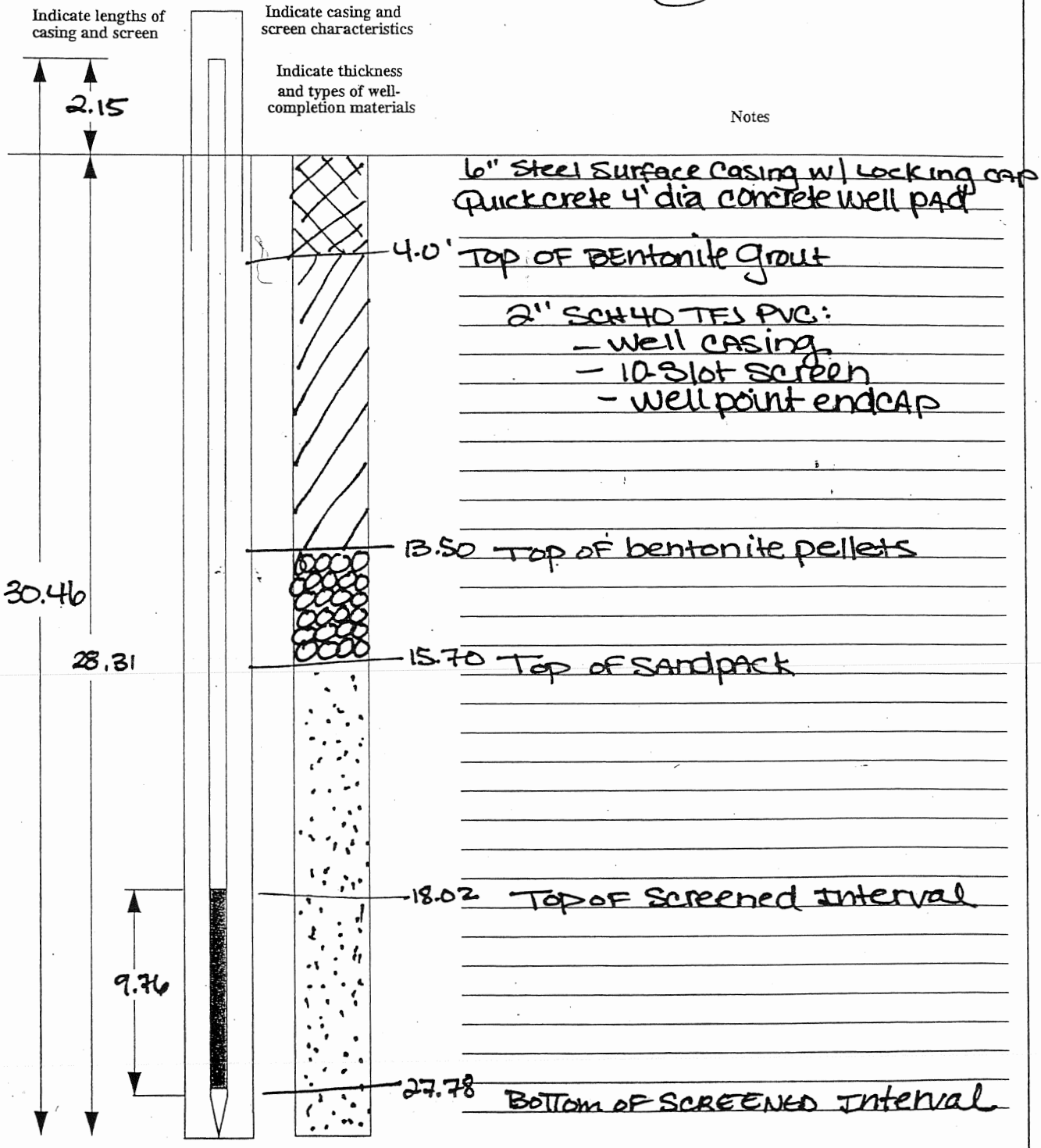


Figure 16. *Example of a form to record well completion--Continued.*

Borehole Log

Site ID 394838104310001
Date(s) Drilled 2/27/03
Coordinates N39°48'38.6 W104°31'00.7
Drilling Co. and Driller USGS
Drilling method CME 85 Hollow Stem Auger
Borehole Diameter 9"
Logged by S. PASCHKE

Borehole No. AgLUS-21
Pages 1 of 1
Ground Surface Elevation
Total Depth
Depth to Water
Static Water Depth

Comments

Depth (ft bls)	Sample type and recovery	Lithologic Description: Color (GSA chart)	Lithologic Description: Grain size %, sorting, roundness, mineral composition %, consolidation (none, poor, well), and moisture content (dry, damp, moist, wet)	Other characteristics and drilling comments
3-5'	cuttings	10YR5/4	moderate yellowish brown slt. dry unconsolidated	
5-7'	cuttings	10YR5/4	mod. yellowish brown med - coarse alluvial sand	
9-12'	cuttings	10YR5/4	Moderate yellowish brown coarse sand & fine gravel, unconsolidated damp. coarser gravel layer at ~10.5' BLS.	
12-14'	cuttings	5YR3/4	Moderate brown coarse sand to fine gravel. coarser than 9-12' interval, unconsolidated, moist	
15-17'	cuttings	10YR4/2	dark yellowish brown moist clayey sand & gravel, unconsolidated clay layer @ ≈15' BLS	
18.5-23.5	core		2.0/2.0' Recovered wl meas = ~~top~~ 19.5' BLS	
18.5-18.8	core	10YR5/4 10YR6/2	moderate yellowish brown to pale yellowish brown clayey fine gr. sand, wet, unconsolidated Fe-stained	
18.8-19.2	core	10YR5/4	mod. yell. brown medium to coarse sand. unconsolidated. Abundant Fe-staining wet.	
19.2-20.0	core	5YR5/6 10YR6/2	Light brown to pale yellowish brown Alluvial sandy clay w/ Fe-concretions ~2mm in diameter, very fine sand unconsolidated, wet, mica flakes visible	
20.0-20.1	core	10YR6/6	Dark yellowish orange, med-sand Qtz & feldspar rich, Fe stained. unconsolidated, wet.	
25-27	cuttings	10YR6/6	SAME AS described in 20.0-20.1' core	

Form No.
GWS-25

OFFICE OF THE STATE ENGINEER
COLORADO DIVISION OF WATER RESOURCES

818 Centennial Bldg., 1313 Sherman St., Denver, Colorado 80203
(303) 866-3581

66

1354

WELL PERMIT NUMBER 249347 - - -
DIV. 8 WD 1 DES. BASIN 5 MD 9

APPLICANT

US GEOLOGICAL SURVEY
DENVER FEDERAL CENTER
PO BOX 25046 MS 415
LAKEWOOD, CO 80215-

(303) 236-4882

APPROVED WELL LOCATION
ARAPAHOE COUNTY
SW 1/4 SW 1/4 Section 2
Township 4 S Range 64 W Sixth P.M.

DISTANCES FROM SECTION LINES
3960 Ft. from North Section Line
10 Ft. from West Section Line

UTM COORDINATES
Northing: Easting:

PERMIT TO USE AN EXISTING WELL

CONDITIONS OF APPROVAL

1) This well shall be used in such a way as to cause no material injury to existing water rights. The issuance of this permit does not assure the applicant that no injury will occur to another vested water right or preclude another owner of a vested water right from seeking relief in a civil court action.
2) The construction of this well shall be in compliance with the Water Well Construction Rules 2 CCR 402-2, unless approval of a variance has been granted by the State Board of Examiners of Water Well Construction and Pump Installation Contractors in accordance with Rule 18.
3) Approved pursuant to CRS 37-90-105(1)(d). Use of this well is limited to monitoring water levels and/or water quality sampling.
4) This well must be equipped with a locking cap or seal to prevent well contamination or possible hazards as an open well. The well must be kept capped and locked at all times except during sampling or measuring.
5) Sampling is limited to the alluvium of Lost Creek or its tributaries. The depth of this well shall not exceed 100 feet or the depth at which sandstone or shale is first encountered, whichever comes first.
6) Records of any water level measurements and water quality analyses shall be maintained by the well owner and submitted to the Lost Creek Ground Water Management District and the Division of Water Resources upon request.
7) Upon conclusion of the monitoring program the well owner shall plug this well in accordance with Rule 16 of the Water Well Construction Rules. A Well Abandonment Report must be completed and submitted to the Division of Water Resources within 60 days of plugging.
8) The owner shall mark the well in a conspicuous place with well permit number(s) and name of aquifer as appropriate, and shall take necessary means and precautions to preserve these markings.
9) This well must be constructed within 300 feet of the location specified on this permit.
10) This well must have been constructed by or under the supervision of a licensed well driller or other authorized individual according to the Water Well Construction Rules.
11) A Well Construction and Test Report (Form GWS-31), including lithologic log must be submitted by the individual authorized to construct the well. For non-standard construction, the report must include an as-built drawing showing details such as depth, casing, perforated zones, and a description of the grouting type and interval.

NOTE: Monitoring hole notice no. MH-41823, was acknowledged on February 13, 2003, for construction of this well. The owner has assigned this well identification no. AgLUS-22.

AgWE522

RECORD OF WELL COMPLETION

Page 1 of 2

START WELL COMPLETION: DATE 02 / 19 / 03 TIME 15:30

FINISH WELL COMPLETION: DATE 02 / 20 / 03 TIME 10:30

COMPLETION ELEMENT	COMPLETION MATERIALS	AMOUNT (by (weight) or volume)	FROM (feet) (or meters)	TO (feet) (or meters)	TOTAL LENGTH (feet) (or meters)
PRIMARY FILTER PACK	CO sprgs Silica 10-20 Sand	10 (50 lb) bags	100.35	85.65	14.7
SECONDARY FILTER PACK	none				
ANNULAR SEALS	1/4" coated bentonite Pellets	1 (50 lb) bucket	85.65	84.1	1.55
	Bentonite Grout	9 (50 lb) bags	84.1	1.5	82.6
SURFACE SEAL	Quick Crete Concrete	9 (80 lb) bags	1.5	0	1.5
WELL PROTECTOR	6" steel Surface casing		2.5	-2.5	5.0'

COMMENTS:- Measurements are in feet below Land Surface (bLS)

- Well Completed by J Beck

Figure 16. *Example of a form to record well completion.*

Page 2 of 2

RECORD OF WELL COMPLETION: WELL-COMPLETION DIAGRAM (Single-well site)

SITE ID 394339104313601 STATION NAME AgUS 22
OTHER ID SC004006402CCA
7.5' QUAD Arapahoe Co, CO sheet 2 COUNTY Arapahoe STATE CO
OWNER Federal Aviation Administration DRILLER USGS
Units used (circle one): (feet) / meters / other _____

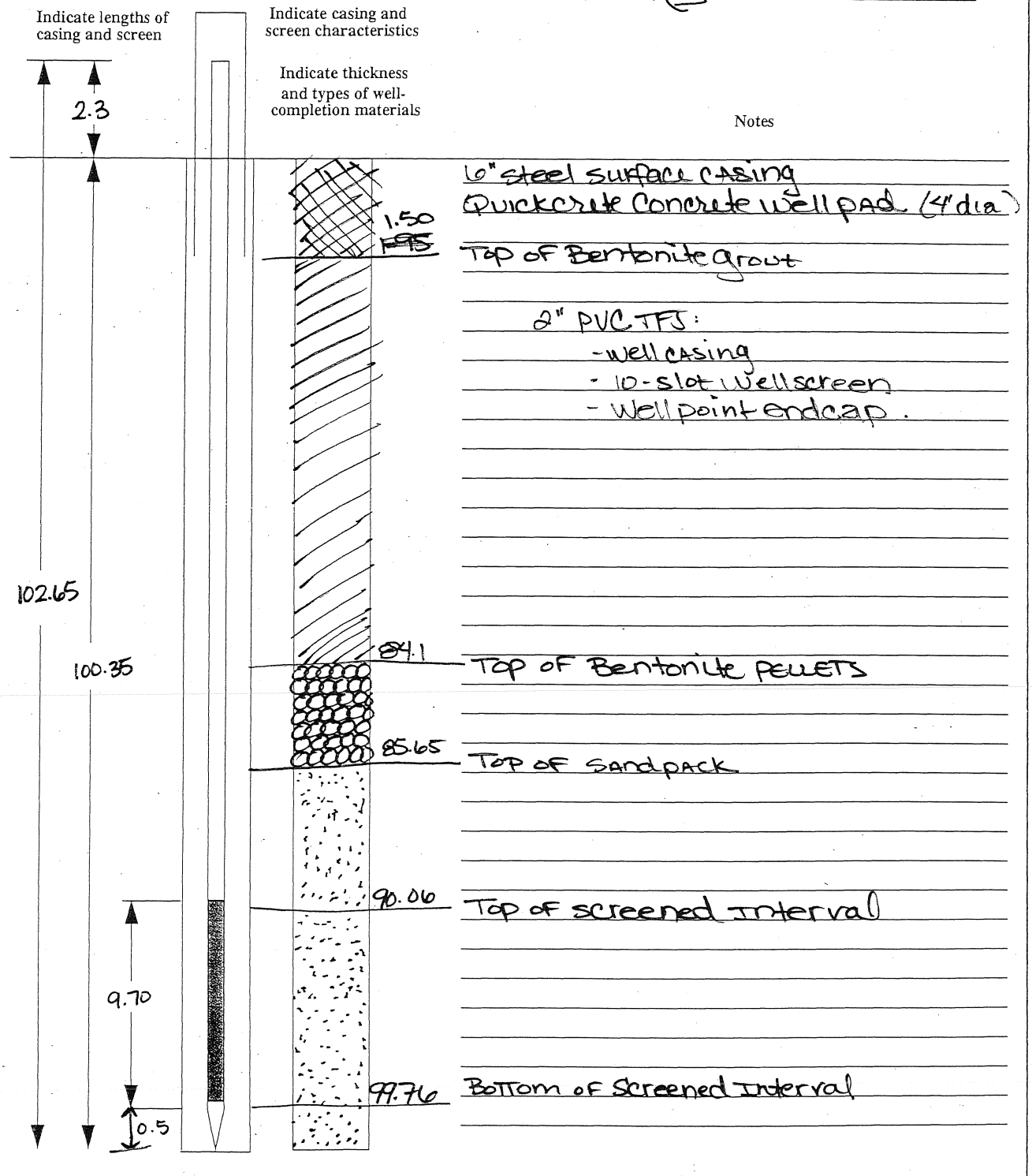


Figure 16. *Example of a form to record well completion--Continued.*

Borehole Log

Site ID 394339104313601
Date(s) Drilled 2-19-03, 2-20-03
Coordinates N39 43 39.53, W104 31' 36.81"
Drilling Co. and Driller USGS'
Drilling method CME 85 Hollow Stem Auger
Borehole Diameter 9"
Logged by J. Beck

Borehole No. AgUS-22
Pages 1 of 3
Ground Surface Elevation ~~5694~~ 5635 Ft
Total Depth 100.35' bls
Depth to Water 90.50' bls
Static Water Depth 53.00 (meas 4/3/03)

Comments

Depth (ft bls)	Sample type and recovery	Lithologic Description: Color (GSA chart)	Lithologic Description: Grain size %, sorting, roundness, mineral composition %, consolidation (none, poor, well), and moisture content (dry, damp, moist, wet)	Other characteristics and drilling comments
0-5'	cuttings	10YR5/4	moderate yellowish brown dry silt. grades to sand at ~2.5' bls	sandy
6-8'	cuttings	10yR5/4	Mod. yell. brown dry med-Fine gr sand qtz ~90%, feldspar ~10% subrounded to well rounded grains	
10-15'	cuttings	10YR5/4	description same as 6-8' cuttings	
16-18'	cuttings	10YR6/2	pale yellowish brown dry silty sand sand ~60% total sample composition sand 90-95% qtz., 5% feldspar sub-rounded grains. Fine-med gr. size	
20-25'	cuttings	10yR6/2	same description as 16-18' cuttings % sand increases.	
28.5-33.5	core		5.0' Run, 4.5' Recovered.	
28.5-30.0	core	10YR6/6	dark yellowish orange, fine-med sand dry to damp. moderate rounding, mod sorting, loosely compacted ≥90% qtz. 5% feldspar.	
30.0-32.2	core	10YR5/4	moderate yell. brown damp sandy clay sand ≤ 10% total composition	
32.2-33.0	core	10YR5/4	moderate yell. brown damp sandy clay sand 15-20% of sample composition	
36-38'	cuttings	10YR5/4	mod. yell. brown damp sandy clay	
40-45	cuttings	10YR5/4	same description as 36-38' cuttings	
45-50	cuttings	10yR5/4	same descr. as 36-38' cuttings	

Borehole Log

Site ID
Date(s) Drilled
Coordinates
Drilling Co. and Driller
Drilling method
Borehole Diameter
Logged by

Borehole No. AgUS-22
Pages 2 of 3
Ground Surface Elevation
Total Depth
Depth to Water
Static Water Depth

Comments

Depth (ft bls)	Sample type and recovery	Lithologic Description: Color (GSA chart)	Lithologic Description: Grain size %, sorting, roundness, mineral composition %, consolidation (none, poor, well), and moisture content (dry, damp, moist, wet)	Other characteristics and drilling comments
51-53'	cuttings	10YR5/4	moderate yellowish brown damp sandy clay	
55-60	cuttings	10YR5/4	same description as 51-53' cuttings damp to moist	
58.5-63.5				
~~58.5-63.5~~	core		5.0' Run, 5.0' Recovered	
58.5-60.4	core	10YR6/6 10YR6/2	Dark yellowish brown to Pale yellowish brown clay & sand interbeds damp. sand interbeds, fine gr. <1cm thick	
60.4-61.4	core	5Y6/1	Light olive gray. Fine grained sandstone damp. loosely compacted Lithic Fragments ~30% Qtz ~35% Feldspar ~35%. well sorted, well rounded grains	
61.4-62.4	core	10YR6/6 10YR5/4	dark yell. orange to med. yell. brown highly Fe-stained sandstone. contact bet. Above sandstone & Fe-stained zone @ 62.0 composition same as above (60.4-61.4)	
62.4-63.5	core	5Y6/1	same description as 60.4-61.4 core sample.	
65-70	cuttings	10YR5/4	med. yell. brown ~~sandstone~~ weathered claystone	
72-73'	cuttings	5Y4/1	olive gray damp claystone	
75-76'	cuttings	N4	med. dark gray damp claystone	
80-85	cuttings	N4	same description as 75-76' cuttings	

Borehole Log

Site ID
Date(s) Drilled
Coordinates
Drilling Co. and Driller
Drilling method
Borehole Diameter
Logged by

Borehole No. Aq LUS 22
Pages 3 of 3
Ground Surface Elevation
Total Depth
Depth to Water
Static Water Depth

Comments

Depth (ft bls)	Sample type and recovery	Lithologic Description: Color (GSA chart)	Lithologic Description: Grain size %, sorting, roundness, mineral composition %, consolidation (none, poor, well), and moisture content (dry, damp, moist, wet)	Other characteristics and drilling comments
85-90'	cuttings	N4	same description AS 75-76'	cuttings
93.5-98.5	core		5.0' Run 4.0' Recovered	
93.5-94.8	core	N6	medium light gray moist to wet sandstone. Fine grained. well-sorted well-rounded grains. Lithic frags ~40% Qtz 35% Feldspar ~25%	
94.8-94.9	core ~~N6~~	N6	dry, med. light gray, very compact siltstone, plant fossils present	
94.9-97.0	core	N6	same sandstone ~~as~~ described in 93.5-94.8 interval. damp	
97.0-97.5	core	N3	dark gray wet shale, contains fragmented plant fossils	

Form No.
GWS-25

OFFICE OF THE STATE ENGINEER
COLORADO DIVISION OF WATER RESOURCES

818 Centennial Bldg., 1313 Sherman St., Denver, Colorado 80203
(303) 866-3581

1354

WELL PERMIT NUMBER 249349 - -

DIV. 8 WD 1 DES. BASIN 5 MD 9

APPLICANT

US GEOLOGICAL SURVEY
DENVER FEDERAL CENTER
PO BOX 25046 MS 415
LAKEWOOD, CO 80215-

(303) 236-4882

APPROVED WELL LOCATION
ADAMS COUNTY
SE 1/4 NW 1/4 Section 32
Township 2 S Range 63 W Sixth P.M.

DISTANCES FROM SECTION LINES
2640 Ft. from South Section Line
2640 Ft. from East Section Line

UTM COORDINATES
Northing: Easting:

PERMIT TO USE AN EXISTING WELL

CONDITIONS OF APPROVAL

1) This well shall be used in such a way as to cause no material injury to existing water rights. The issuance of this permit does not assure the applicant that no injury will occur to another vested water right or preclude another owner of a vested water right from seeking relief in a civil court action.
2) The construction of this well shall be in compliance with the Water Well Construction Rules 2 CCR 402-2, unless approval of a variance has been granted by the State Board of Examiners of Water Well Construction and Pump Installation Contractors in accordance with Rule 18.
3) Approved pursuant to CRS 37-90-105(1)(d). Use of this well is limited to monitoring water levels and/or water quality sampling.
4) This well must be equipped with a locking cap or seal to prevent well contamination or possible hazards as an open well. The well must be kept capped and locked at all times except during sampling or measuring.
5) Sampling is limited to the alluvium of Lost Creek or its tributaries. The depth of this well shall not exceed 100 feet or the depth at which sandstone or shale is first encountered, whichever comes first.
6) Records of any water level measurements and water quality analyses shall be maintained by the well owner and submitted to the Lost Creek Ground Water Management District and the Division of Water Resources upon request.
7) Upon conclusion of the monitoring program the well owner shall plug this well in accordance with Rule 16 of the Water Well Construction Rules. A Well Abandonment Report must be completed and submitted to the Division of Water Resources within 60 days of plugging.
8) The owner shall mark the well in a conspicuous place with well permit number(s) and name of aquifer as appropriate, and shall take necessary means and precautions to preserve these markings.
9) This well must be constructed within 300 feet of the location specified on this permit.
10) This well must have been constructed by or under the supervision of a licensed well driller or other authorized individual according to the Water Well Construction Rules.
11) A Well Construction and Test Report (Form GWS-31), including lithologic log must be submitted by the individual authorized to construct the well. For non-standard construction, the report must include an as-built drawing showing details such as depth, casing, perforated zones, and a description of the grouting type and interval.

NOTE: Monitoring hole notice no. MH-41688, was acknowledged on January 9, 2003, for construction of this well. The owner has assigned this well identification no. AgLUS-26.

AgLUS 26

RECORD OF WELL COMPLETION

START WELL COMPLETION: DATE 1 / ~~19~~ 20 03 TIME 8:30

FINISH WELL COMPLETION: DATE 1 / 20 / 03 TIME 13:00

COMPLETION ELEMENT	COMPLETION MATERIALS	AMOUNT (by weight or volume)	FROM feet (or meters)	TO feet (or meters)	TOTAL LENGTH feet (or meters)
PRIMARY FILTER PACK	10-20 Co silica Sand	6-50 lb bags	83.74	70.7	13.04
SECONDARY FILTER PACK	None				
ANNULAR SEALS	1/4" COATED Bentonite pellets	1-50 lb bucket	70.7	68.7	2.0
SURFACE SEAL	Bentonite grout	12-50 lb bags	68.7	2.5	66.2
	QuickCrete Concrete	10-80 lb bags	2.5	0.0	2.5
WELL PROTECTOR	6" steel surface		2.5	-2.5	5.0
	casing w/ locking				
	cap				

COMMENTS: Measurements are in feet below Land Surface (bls)
- Well completed by S. Paschke

Figure 16. *Example of a form to record well completion.*

RECORD OF WELL COMPLETION: WELL-COMPLETION DIAGRAM (Single-well site)

SITE ID 394956104274101 STATION NAME AgLUS26

OTHER ID

7.5' QUAD

OWNER Duane Becker COUNTY Adams STATE CO

DRILLER USGS

Units used (circle one): feet / meters / other

Indicate lengths of casing and screen

Indicate casing and screen characteristics

Indicate thickness and types of well-completion materials

Notes

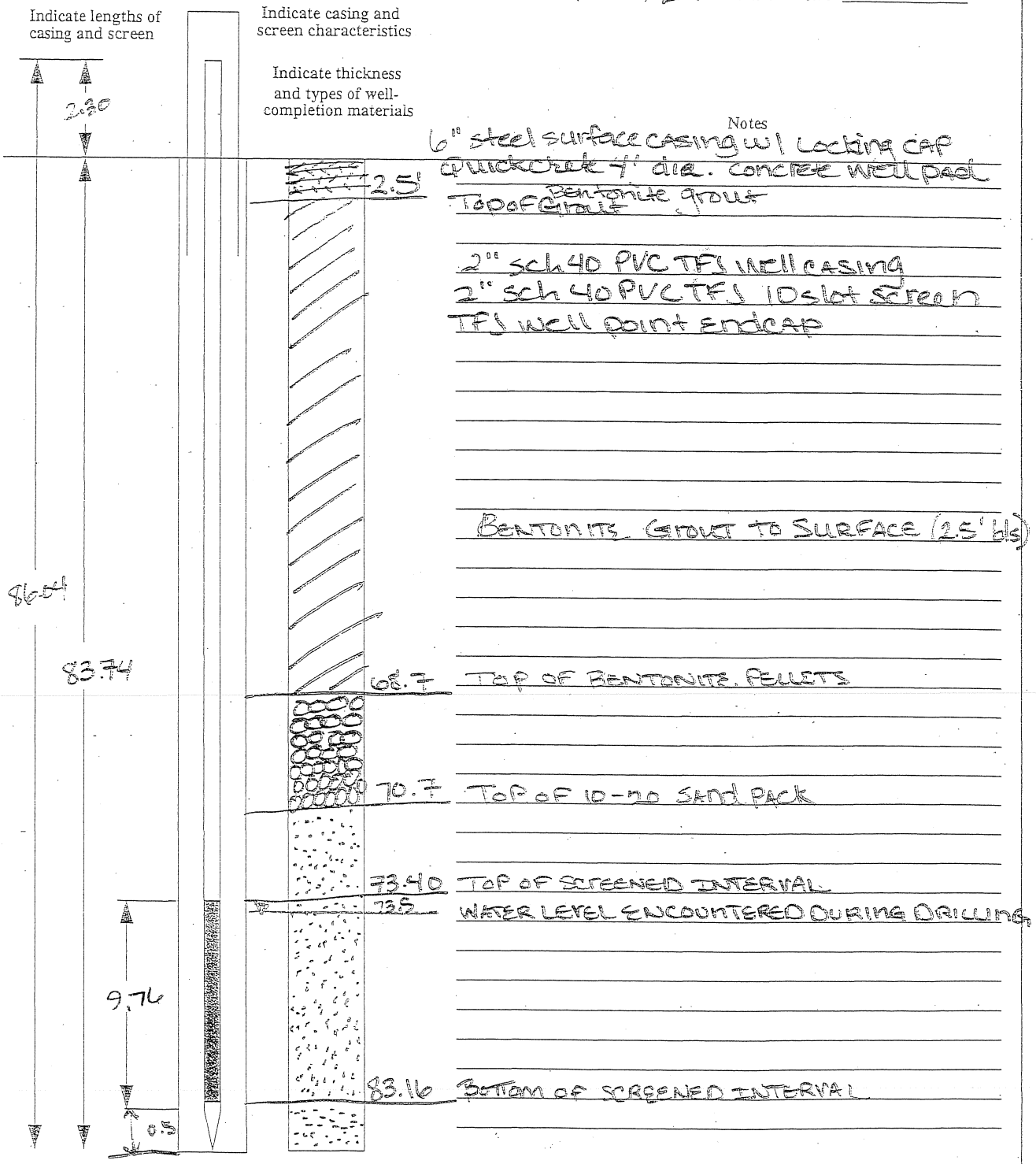


Figure 16. *Example of a form to record well completion--Continued.*

Borehole Log

Site ID: 394956104274101
Date(s) Drilled: 11/19/03, 11/20/03
Coordinates: N39°49'56.8" W104°27'41.8
Drilling Co. and Driller: USGS
Drilling method: OME 85 Hollow Stem Auger
Borehole Diameter: 9"
Logged by: JBECK, SPASCHKE

Borehole No.: AgWS-2.6
Pages: 1 of 2
Ground Surface Elevation: ~~5624~~ 5315
Total Depth: 83.74' BLS
Depth to Water: 73.16(6/measured 4/03)
Static Water Depth:

Comments:

Depth (ft bls)	Sample type and recovery	Lithologic Description: Color (GSA chart)	Lithologic Description: Grain size %, sorting, roundness, mineral composition %, consolidation (none, poor, well), and moisture content (dry, damp, moist, wet)	Other characteristics and drilling comments
2-4	cuttings	10YR5/4	Mod. yellowish brown ~~clay~~ sandy silt Damp. unconsolidated	
6-8	cuttings	10YR5/4	moderate yellowish brown damp sandy silt, unconsolidated	
11-12	cuttings	10yR5/4	mod. yellowish brown moist sandy clay	
13.5-18.5	core		2.5 /5.0' RECOVERED	
13.5-16.0	core	10YR6/6	dark yellowish Orange moist clayey sand. fine-med sand. unconsolidated well sorted	
18.5-23.5	core		5.0/ 5.0' RECOVERED	
18.5-20.1	core	10YR6/6	Dark yellowish orange moist sand, fine-med grained well sorted slightly clayey, unconsolidated	
20.1-23.5 -26.5	core	10 yR 7/4	Grayish Orange moist coarse sand & granules poorly sorted	
23.5-~~28.5~~	core		3.0 /3.0' RECOVERED	
23.5-26.5	core	10YR7/4	Grayish Orange moist coarse sand & granules up to 1cm dia. poorly sorted angular grains, fines upwards	
31-32	cuttings	10YR7/4	Grayish orange moist clayey sand	
33.5-38.5	core		2.5 /5.0' Recovered.	

Borehole Log

Site ID
Date(s) Drilled
Coordinates
Drilling Co. and Driller
Drilling method
Borehole Diameter
Logged by

Borehole No. AgLLIS-216
Pages 2 of 2
Ground Surface Elevation
Total Depth
Depth to Water
Static Water Depth

Comments

Depth (ft bls)	Sample type and recovery	Lithologic Description: Color (GSA chart)	Lithologic Description: Grain size %, sorting, roundness, mineral composition %, consolidation (none, poor, well), and moisture content (dry, damp, moist, wet)	Other characteristics and drilling comments
33.5-35.0	core	10YR6/6	Dark Yellowish Orange moist clayey sand & granules; unconsolidated	
35.0-36.0	core	10YR6/6	Dark yellowish orange moist coarse sand & granules, poorly sorted, unconsolidated.	
38.5-43.5	core		2.0/5.0' Recovered.	
38.5-40.5	core	10YR6/6	dark yellowish orange moist coarse sand, granules & pebbles poorly sorted, unconsolidated.	
44-45	cuttings	10YR6/6	dark yellowish orange moist coarse sand	
51-53	cuttings	10YR6/6	dark yellowish ~~brown~~ orange dry coarse sand, granules, pebbles	
56-57	cuttings	10YR6/6	dark yellowish orange dry coarse sand, granules, & pebbles poorly sorted	
61-63	cuttings	10YR6/6	same description as material in 56-57' cuttings.	
67-68	cuttings	10YR6/6	dark yellowish orange dry coarse sand & pebbles, unconsolidated	
74-76	cuttings	10YR6/6	dark yellowish orange dry coarse sand & pebbles.	
73.5-78.5				
~~78.5-83.5~~	core		2.0/5.0' Recovered	
~~78.5-80.5~~	core			
73.5-75.5		10YR6/6	dark yellowish orange wet coarse sand & pebbles, angular, poorly-sorted, unconsolidated ~70% Qtz 25% ortho-	
79-81'	cuttings	10YR6/6	same as described in 73.5-75.5' interval	