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Form No. **GWS-25** 

# OFFICE OF THE STATE ENGINEER COLORADO DIVISION OF WATER RESOURCES 818 Centennial Bldg., 1313 Sherman St., Denver, Colorado 80203

**DSS 14** 

1354

(303) 866-3581

WELL PERMIT NUMBER	255169	-	-

APPLICANT

DIV. 8 WD1 DES. BASIN 5 MD 9

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.
- The construction of this well shall be in compliance with the Water Well Construction Rules 2 CCR 402-2, unless approval 2) of a variance has been granted by the State Board of Examiners of Water Weil Construction and Pump Installation Contractors in accordance with Rule 18.
- Approved pursuant to CRS 37-90-105(1)(d). Use of this well is limited to monitoring water levels and/or water quality 3) 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.
- Sampling is limited to the alluvium of Lost Creek or its tributaries. The depth of this well shall not exceed 59 feet or the 5) depth at which sandstone or shale is first encountered, whichever comes first.
- Records of any water level measurements and water quality analyses shall be maintained by the well owner and 6) submitted to the Lost Creek Ground Water Management District and the Division of Water Resources upon request.
- 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.
- 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.
- This well must be constructed within 300 feet of the location specified on this permit.
- 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

Page 1 of 2

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  (fee) (or meters)	TO feet (or meters)	TOTAL LENGTH (eet)or meters)
PRIMARY FILTER PACK	10-20 ColloSprys	14x5016 bag	44.5	59.5	15.0
	Silica Sand		,		
SECONDARY FILTER PACK	hone				
ANNULAR SEALS	1/4" coated	2×5016	40.4	44.5	4.10
	bentonite pellets	Pails			
	Bentonite grout			40.4	37.4
SURFACE SEAL	Duicemete Concrete	7x801b bag	0.0	3.0	3.0
-					
WELL PROTECTOR	6" stee )		-2.0	3.0	5.0
	bustace casing				1

Well completed by J. Beck.

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

יו ממווידי	04310002	
5' QUAD	<b>.</b>	COUNTY Adams STATE CO
Indicate lengths of casing and screen	Indicate casing and screen characteristics	Units used (circle one): Tee / meters / other
1.55	Indicate thickness and types of well- completion materials	Notes
21.05		6"Steel Surface CASING Working CAP  Phick Crete 4' dia concrete Wellpar Top of Bentonite growt  Waterlevel encountered during drilling  2" Sch 40 PVCTFJ:  - Well casing  - 10-slot scheen  - Wellpoint endcap  Top of Bentonite Pellets
59.50	44.5	Top SANDPACK
9.76	H9	.19 Top of screened Interval

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

Site ID 394838104310002	Borehole No. DSS-14
Date(s) Drilled 11/3/03 - 11/4/03	Pages of 3
Coordinates N39°48'38,5, WIOH'31'00.9"	Ground Surface Elevation5186
Drilling Co. and Driller US65	Total Depth 59.50 'BLS
Drilling method CME85 HollowStemAuger	Depth to Water
Borehole Diameter	Static Water Depth
Logged by JBECK	
Comments	

			Lithologic Description	
Depth (ft bis)	Sample type and recovery	Color (GSA chart)	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	104RS/4	moderate yellowish brown dry, silt	unconsolida
5-7	cuttings	104R5/4	mod. yellowish brown med-co Alluvial sand., unconsolidas Sorted.	
9-12'	cuttings	104RS/4	moderate yellowish brown con & Fine gravel damp, uncon conrse gravel layer around BLS.	rse sand nsolidated d 10-10.5'
12-14	cuttings	54R34	Moderate brown coarse sar Slightly coarser than 9-12' Unconsolidated, moist.	otto gravel cuttings
15-17	cutting	10yR4/2	Jark yellowish brown moist sand & gravel unconsoludat Clayey zone at approx. 19	- Clayey ed. BLS.
18,5-23	.s core		2.0/20' RECOVERED	
18.5-18.	8 core	104R5/4 104R6/2	moderate yellowish brown to yellowish brown clayey for sand, wet, poorly conscite-stained throughout	pale pe grained lidated
18.8-19.	2. core	10484	moderate yellowish brown n sand, unconsolidated, wet	redium -com Te-stained
19.2-20	.D Core.	54R5/4	Light brown to pale yellow, Alluvial sandy clay we Fe vamm in dinneter : veryfun Unconsolidated - mad. consol Wet. mica flakes visible	sh brown concretion e sand idation

Site ID			Borehole No. DSS-14
Date(s) Drilled	-		Pages A of 3
Coordinates			Ground Surface Elevation
Drilling Co. and Drill	ler		Total Depth
Drilling method	_		Depth to Water
Borehole Diameter			Static Water Depth
Logged by	-		
	1		
Comments			
			Lithologic Description
Depth (ft bis)	Sample type and recovery		Grain size %, sorting, roundness, mineral composition %, consolidation  Other characteristics and drilling comments  Other characteristics and drilling comments
		1011010/10/10	Dark yellowish brown orange wet
80.0-20.9	SUDIE	1092016	
			medium grained sand. quartz &
			Feldspar Rich, unconsolidated Fe-
			Stained
23.5-27.5	core		3.0 /4.0' RECOVERED
23.S-24.3	core	104R5/4	moderate yellowish brown wet coarse
	-	,	sand & gravel, poorly sorted, angular
			unconsolidated, Feldspar -30%
			Dtz 60% , Sithic Fragments 10%
			VIZ 100/8   SITTILE TRAGITETIES 10/8
21/2 20		12.12.26.1	1. 6 in the work and the
24.3-25.	core	104R5/4	moderate yellowish brown wet sandy
			clay. SANd = 40% of total sample
			composition , Fine - grained , well-nounde
			Well sorted Otz 78% Feldspar 15%
			Lithic Fragments 15%
	<u>-</u>		
27.5-31.0	core		3.5/3.5 'RECOVERED
27.5-31.0	core	IDURIOLO	Dark yellowish orange Clayey
		1	sandstone, uniform texture, wet
			I want dank I ali a a a call ala Lad La Ma AMINOCI
			TO MANALATIANS DES 10501 TOYOR 150
	<u> </u>		16-0110x1x1010, 4120010 Feldspirits
			TE-concretions, of 2 65% Feldsparish Lithic Frag. 20% Suty near 31.0' BLS
21, 27	aullin	or ministr	
36-37	CUTTUR	42 1042616	dark yellowish orange wer strice.
		<u> </u>	well-consolidated. Fine grained
(1)	}		
41-43	cutting	25 104R6/1	dark yellowish orange wet sand
		, , ,	well-consolidated fine grained
	-		
43.5-4	7.5 core	2	2.S-4.0' RECOVERED

Site ID				Borehole No	JSS-14	
ate(s) Drilled			<u> </u>	Pages	<u> </u>	3
Coordinates				Ground Surface i	Elevation	
orilling Co. and D	riller			Total Depth		
Orilling method	_			Depth to Water		
Borehole Diamete	er _			Static Water Dep	ith .	
ogged by			· .			•
Comments			·			
	•					
			. Lithologic Description			·
	Sample type and					
Depth (ft bis)	Sample type and recovery	Color (GSA chart)	Grain size %, sorting, roundness, mineral (none, poor, well), and moisture content			Other characteristics and drilling comments
43.5-46-0		N7			/	,
1515 10-0	COIL	N 7		o to mois	, _	istone.
			zones of Fe-sta			amed
	,		well sorted, well			od-well
			consolidated a	Hz.609	o, Fel	dspar 15%
			Lithic fragmen		- ,	
			C, J, J			
47.5-51.	E Anre	,	4.0/4.0' RECOV	EDEN	•	
1113-01.	3 COIC		1.0/ 4.0 REWV	0100		
//	<u> </u>	417				
47.5-51.	score	NF	Light gray da	mpton	noist	sanastone.
			Fe-concretions	UNITE	rn te	exture
			med-grained	MP11 SOY	ted w	ellraunded
			CHICFrag 25		100%	Feldspar 15%
			Cancer ray, as	10 ) 41 2		1207.7. 10 /6
516-5	Score	T.	25/24' 3000	FOEN		
ا قد عنی از	SCOIL		2.5/3.0' Recou	eren		
		* * *			7 - 1	
57.S-SH.	o core	N7	Light gray dar	np sar	aston	e. same
			description As	s'un 47	·S-51.	s'Interval
	-		7			
54.5-3	7.0 Core	2	2.5/2.5' RECOV	ERED		
01.00	7.0		4.5/4.5 ACCOU	CACA		
~10-57	2 1000	V17	/ Int & angu Ana	1 % . 1. 1	le llaus	201 4.00 1000
54.5- <i>51.</i>	U core	NT /	Light Gray And damp Sandste	Bark	jeuow	sh orange
		104K616	aamp sonaste	ne n	ighly t	e-stained
			uniform textu	re, me	d-gra	ined,
			well-sorted u	1211-1011	nded	. Otz 60%
			uniform textu well-sorted, u Teldspar 150/0	Lithirt	ran at	0/_
		i i	10 mps/ 15-10 1	un riici	Jas	10
58 C-1	2.5 Core	,	Un 111=1 2-	1011	· <b>N</b>	
w.s. 6	a.s core	-	4.0 /4.0' RE	COVERE	۵	<del></del>
ra ~ ~	2 -	11.17	1,			
30,5-57	7.2 core	N+	Light gray and moist sandsto	Darky	ellowk	sh orange
		YOURGLO	moist sandsta	ne.		U
592-10	25 mro	585/1	madin un laliniel	amil	1 kg. nl.	rictano.
21.00		5 000/1	medium bluish weathered.	ging c	~ 4 U	130
			WEATHEREA.	rganic	Troue	riay
		-	abundant fr	100 59.	2 -5	7.7
	1	i .	1			i

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

USGS/DENVER FEDERAL CTR

COLORADO WATER CONSERVATION BOARD

1354

VELL PERMIT NUM	1BER255168_	-	
DIV. 8 WD 1	DES. BASIN 5	MD 9	9

**APPLICANT** 

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:

(303) 236-4882

PERMIT TO USE AN EXISTING WELL

MS 415 PO BOX 25046

LAKEWOOD, CO. 80225-

#### **CONDITIONS OF APPROVAL**

- 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.

#### RECORD OF WELL COMPLETION

Page 1 of 2

START WELL COMPLETION: DATE 11 / 34 / 2003 TIME 11:30

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

•			r		
	COMPLETION MATERIALS	AMOUNT	FROM	TO	TOTAL L <u>EN</u> GTH
COMPLETION ELEMENT	·	(by weight or volume)	feet (or meters)	feet for meters)	reet (or meters)
PRIMARY FILTER PACK	10-20 COSP195				
		7x50lbbag	97.0	112.7	15.70
		σ			
SECONDARY FILTER PACK	none				
ANNULAR SEALS	1/4" coated		•		
	Bentonite Pallet	1-501b	95.0	97.0	2.0
	Bentonite grow	t6x501bbag	2.0	95.0	93.0
SURFACE SEAL	Bentoute grout Quickcrete	7×801b bage	50.0	2.0	2.0
	·	V			
WELL PROTECTOR	6" steel surface	P	-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.

	Page 2 of 2
· ·	WELL-COMPLETION DIAGRAM (Single-well site)
SITE ID 39525910425340   OTHER ID DSS - IS 7.5' QUAD	COUNTY Adams STATE CD
OWNER CWCB	DRILLER WSGS Units used (circle one): deet meters / other
Indicate lengths of casing and screen characteristics	Onits used (circle one): Reet Inteless / Other
Indicate thickness and types of well-completion materials	Notes
2.0	6"steel surface casingw/ Locking cap Quick crete 4'dia concrete Wellpad
2.8	Top Bentonite grout
	2" schud TFJ PVC:
	-well casing
	- 10-Slot screen
	- wellpoint endcap
81.70	vatericuel encountered during deilling
11495	arctiona
112,72	O TOP BENTONITE PELLETS
	- cardoook
97	1.0 Top Sandpack
	02.41 Top of Screened Interval
	02.41 Top of Screened Interval
9.76	
	.17 Bottom of Screened Interval

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

Site ID 395259104253401	Borenole No. DSS -	- 15
Date(s) Drilled 11/4/03 , 11/5/03	Pages	of U
Coordinates N39°52'59.6" WIOY'25'34.0"	Ground Suriace Elevation	5217
Drilling Co. and Driller USGS	Total Depth	112.72
Drilling method CME 85 Hollow Stem Auger	Depth to Water	81.7 'BIS
Borehole Diameter 9	Static Water Depth	80.9 78.67 BLS
Logged by JBECK		·
Comments		

			Lithologic Description	
Depth (ft bis)	Sample type and recovery	Color (GSA chart)	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	104R6/6	Dark yellowish orange to mode	rate
		10 yr 5/4	yellowish brown, medium to	coarse,
			to very course grained poor!	(non)
			10% - very coarse grains (0.8. SAND. Subangular dry)	1 110 0 AMENTO
			Feldspar 15% Ot 280%	CONSOTION
5-8	cuttings	INURO/6	Dark Wellowish prange to mo	d. uellawisk
		INURS/4	brown dry synd. medium	+ to UPru
		109 1	Coarse grained unconsolida	ted f
10-12.	cutting	5 10426/10	SAME AS DESCRIBED IN 5-8	'Interval
	/	104R5/4		
16-18	cuttings		Dark yellowish orange to ma	terate
		10 4RS/4	gellowish brown med - very grained damp sand uncon	coarse (min
		•	grained damp sand uncor	150110Ated
			poorly sorted; subangu	jar
			Dtz 80%, K-FeldSPAY 450	20
18.5-22	5 core	2	3.0/4.0' RECOVERED	
18.5-21.5	core	10426/6	Dark Yellowish Drange da	mp to
			moist sand, med to coarse	2-grained
			Q+285%, K-FELDSPAT 10%	3
			poorly consolidated mod	to poorly
			sorted, sub-Angular, GE	
			Fining upwards	
25-21	cutting	s lours/	y moderate yellowish brown	10
		104R6/0	a dark yellowish orange	aamp
			clayey sand.	
32-33'	cuttimes	IOURIOLIA	Dark yellowish orange damp	to maist
	J. 11.17	1092416	Clayey SAND. SAND = COAR.	Se to
			very coarse (1.5-2.0 cm)	sub-phaulo

Site ID			•	Borehole No. DSS-	12
Date(s) Drilled				Pages <u> </u>	of <b>U</b>
Coordinates				Ground Surface Elevation	
Drilling Co. and Dr	riller			Total Depth	
Drilling method				Depth to Water	
Borehole Diamete	r	•		Static Water Depth	
Logged by					
Comments		•			
_					•
-			1.0		
			. Lithologic Description	on	
Depth (ft bis)	Sample type and recovery		Grain size %, sorting, roundness, n (none, poor, well), and moisture co		on Other characteristics and drilling comments
22 (	onta)		Doorly Sorted		nonsolidated
J 35 C	LOVE (CI.)		750/ M- 100/		-10% ala
		-	75% atz, 10%	reasput, s	1010 444
			minerals		
20 m			20/11/200	4.15	
83.5-34.9	> core		0.0/4.0 RECO	DUERED	
36	3		alian ta an		10.10.10.1
33.5 - <del>35.</del>	core	104R6/6			amp interbedded
			sand & clay.	clay 28nes Id 36.0 and 30	From
			33.5-34.2 gr	nd 36:0 and 31	6.3
			SAND= COArse	grained; Sub	rounded
			poorly consoli	dated moder	rately sorted
			70-80% 042	2/- 1/-	Ar 5% Lithic
			Fragments.		
		*	7729.70		
6-44	Cuttings	INUD SKI	made - 4 /101	Lowish brown	n damp
2 11	Cusiu-p	107247	Mayor Same	1 (/24 000	10 = 31-419/
			carel said	animal to a	
	-		SAMOLE MIED	gracined to co	
	-		ma-rouna	ing, mod-s	or ring
	-		moa-consoli	dation of	Z-FICE
117 110'	authina	- 10 1100/11	m d-1 10 110	11	yo danan
47-49	cutting	5 10 YRSY4	moderate ye	HOWISH Drou	or awnp
-			clayey sy	d some n	naterial,
			Asdescribed	in 42-44'	Interval.
		1			
53-55	cuttings	104RS/4	SAME MATE	rial As Desc	ribed
	/	0	SAME MATE	nterval.	
	1	_			
42-63	cutting	siourbli	o Dark yellou	ush Drange I	Samp COATSE or ly consolidated -15%
	1	) ,	sand, Donrl	u sorted Do	orluconsolidaten
			M2 75%	EDINSPAY IN	-15%
			sub-rouno	lod	
			Sur Julio		
1710	الم الم	c 10101al.	•	val. 0	مردي حديم
61-00	cuming	TOGERAL	Dark yellou	DISM Crange N	Mary manufer Ed
			COHISE GIGINE	1 - Mayer C	ting sub-rounded ictrag. 5%
			<b>Exprisconsolid</b>	hted war spic	ring sub-lourura
			472 80%, Feld	150ar 1090, Lith	ctrag. 270

Site ID			Borehole No.
Date(s) Drilled			Pages 3 of 4
Coordinates			Ground Surface Elevation
Drilling Co. and D	riller _		Total Depth
Drilling method			Depth to Water
Borehole Diamete	er		Static Water Depth
Logged by	-		
Comments		•	
	•		
•			
	ļ		Lithologic Description
	Sample type and		Grain size 9/ secting reundrage misseul composition 9/ consolidation. Other share resistive
Depth (ft bis)	recovery	Color (GSA chart)	Grain size %, sorting, roundness, mineral composition %, consolidation (none, poor, well), and moisture content (dry, damp, moist, wet)  Other characteristics and drilling comments
68.5-7a.	_		
00.3 14.	s core		# 3.0 /4.0' RECOVERED
66.5-71.5	core	104R714	grayish orange to dark yellowish
		104R W/L	
		مام م	
			very coarse (1cm) grained sub-angul
			unconsolidated, 7098 Otz 5-10% Feldson
			10% Lithic Fragments
			J .
76-78	cuttings	DUR74	gravish orange to dark vellowish
10 10	cum 4		
	ļ	IOURULO	brown orange damp sand. same
			composition and texture as described
			in 68.5-71.5' Interval
			CIT GO! > 11.2 THE ACT
00 02	- 11		
82-83	cuttings	\$ 104R714	grayish orange to dark yellowish.
		104Kb b	brame damp sand same composition
			and texture as described in 18.5-71.5'
			Therval.
	3		Litter vay.
	_		
83.5-63	7 core		0,2 RECOVERED
83.S-83.	1 are	104R6/2	Dale vallencial francis und count and
03.2-03.	7 core	109RW 2	
			gravel poorly consolidated
			Sub-rounded, poorly sorted
			100-1050 ALD 15 DAR Foldens
	<u> </u>		60-65% Otz, 15-20% Feldspar,
	1.	<u> </u>	10% Lithic fragments-
			, 0
88.5-93	.S Core		3.0/5.0' RECOVERED
			SIG TO THE CONTENTS
200		(2	10 1010/0 11/1 100/
88.S-91.	Doore	104R5/4	
			to clayey sand. moist to wet.
			Conountin Anaimande enna
	-		generally Aines youards, Sand=
	<del> </del>		medium grained, mod-sorted, sub-angui
	•		Ot2-Rich
150	1 Mill	Inineli	1 maderale all in land
102-107	CUTIIN	15 10912 7	I moderate yellowish brown wet coarse.
	1.	· .	SAPOL,

Site ID		Borehole No. DSS	Borehole No. 155-15			
Date(s) Drilled	Drilled		Pages -	Pages di H		
coordinates			Ground Surface Elevation	]		
rilling Co. and I	Oriller _		Total Depth			
rilling method	_		Depth to Water			
orehole Diamet	ter		Static Water Depth			
ogged by						
		,				
Comments						
				•		
e						
			Lithologic Description			
			Littlologic Description			
	Sample type and		Grain size %, sorting, roundness, mineral composition %, consolid	ation Other characteristics and		
Depth (ft bls)	recovery	Color (GSA chart)	(none, poor, well), and moisture content (dry, damp, moist, wet)	drilling comments		
107-109	cuttings	IOURSY	moderate yellowish brown	wet		
			sand, charse arained, si	banquar		
			sand, coatsegrained, su Fluidized (unable to take	and sample)		
			Dia-rich	ر مام المام		
			4721101			
	-					
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			<u> </u>			
		<b>†</b>				
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	and the second					
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				-		

Form No. GWS-25

# OFFICE OF THE STATE ENGINEER COLORADO DIVISION OF WATER RESOURCES 818 Centennial Bidg., 1313 Sherman St., Denver, Colorado 80203

(303) 866-3581

1354

WELL PERMIT NUMBER 249300 DIV. 8 WD1 DES. BASIN 5 MD 9

**APPLICANT** 

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

(303) 236-4882

PERMIT TO USE AN EXISTING WELL

APPROVED WELL LOCATION

ADAMS COUNTY

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:

## CONDITIONS OF APPROVAL

- 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.
- 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.
- Approved pursuant to CRS 37-90-105(1)(d). Use of this well is limited to monitoring water levels and/or water quality
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.

Aquus 3

### RECORD OF WELL COMPLETION

Page 1 of 2

START WELL COMPLETION:

DATE 03 /02 / 03

TIME 12:00

FINISH WELL COMPLETION:

DATE 03 / 03 / 03

TIME 12:30

			T	1	TO THE
COMPLETION ELEMENT	COMPLETION MATERIALS	AMOUNT	FROM	TO	TOTAL LENGTH
COMM ELTION ELLINENT		(by weight of	reel or	<b>Ce≘</b> Hor	(feet)(or
		volume)	meters)	meters)	meters)
- PRIMARY FILTER PACK		7 × 5016	93.49	80.0	13.40
	SILICASAND	<u>vags</u>	12.00	<u>ص. ت</u>	15.4
SECONDARY FILTER PACK	NONE .				
	5 8 9c	1 n N			
ANNULAR SEALS	14 CORTED DEVITORI	e 1×50lb	80.0	78.02	1.98
	14" CORTED bentoni				
•					·
	bentonitegrout	II X502b	78.02	3.0	75.07
		2601		3.0	1,01,02
SURFACE SEAL	puckcrekcincrek	L SX BUR	3.0	0	3.0
		.√			
WELL PROTECTOR	2º chaol Curtan		22:4	-2.6	5.0
TELL ROLLETOR	o'steel Surface			2.6	2.0
	72-311 g				•
• •					

COMMENTS- Measurements are in feet below Land surface.
- Well completed by j beck.

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

		·	Page 2 of 2
י יי י	. בריים או מיים או או או		
SITE ID 395300104	1253301	WELL-COMPLETION DIAGR STATION NAME Aquus 3	AIVI (Single-weil site)
OTHER ID SCOOZ OLO 7.5' QUAD Adams, CO	Shaal A	county <u>Adams</u>	CTATE CA
OWNER Kenneth Dem	oney	DRILLER	STATE
	J	Units used (circle one): (feet) / mete	ers / other
Indicate lengths of casing and screen	Indicate casing and screen characteristics		
AA	Indicate thickness		
2.5	and types of well- completion materials		
	•	Note	es ·
	3.0	O" Steel Surface CAS Quick Crete conclute Top of Bentonite g	PACI.
		PVC TFJ sch40:	
	<sup>6</sup> // <sub>4</sub>	2" Well CAS	
		2' 10-51 of SC	
		2" wellpoint	GATICAL
	and the second	·	
	A STATE OF THE STA		
95.99			
93 49'	- 100	2 Top of Bermonite p	elles
	<b>333</b>	4	
		-	
		_	
		.D TOP OF SANDPACK	
		water Level encount	ered during
-		drilling	C.C. C.C.
		CALLETTE STATE	
A Topics		83.21 TOD OF SCIER	
	1000	83.21 TOP OF SCIER	nea swelval
	" × × " ,		
	2. 6. 6.	· · · · · · · · · · · · · · · · · · ·	
		•	
		-	
		97 9D 12	7.
	12.00	2.70 Bottom of Screen	ed interval
1 1 10 20			

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

Site ID 39530010425330)	Borehole No. Aalus 3
Date(s) Drilled 3/2/03 3/3/03	Pages of 3
Coordinates N39° 53′ 00.41′, WILD4° 25′ 33.9	Ground Surface Elevation 5190
Drilling Co. and Driller	Total Depth 93.49
Drilling method <u>CME85 HallowStem Auger</u>	Depth to Water
Borehole Diameter 911	Static Water Depth 81.01 (meas. 4/3/2
Logged by Neck	
Comments	

			Lithologic Description	
			Littleigh Scorpton	
Depth (ft bls)	Sample type and recovery		Grain size %, sorting, roundness, mineral composition %, consolidation (none, poor, well), and moisture content (dry, damp, moist, wet)	Other characteristics and drilling comments
2-3'	Cuttinas	104R6/6	dark yellowish brange to moderate	poorly
		104R.5/4	Westonish hower med-coarse	'sortell
			TO VETY COATSE (0,5-1 5 M) SAND	
•			10% Very COATSE ARGINS, SUBANGULA	_
			predominately of and Feldspar	
	,		(Feldspar 4 15%, ot: 80%)	
			NOT consolidated, dry	
5-10'	cuttings	SAME	come dry and as shall	·
	Coom Ap	OH 112	SAME dry sand as above.	:
10-15	cutting	C A :===	20.00 45 2.21 1.00	
10-13	CCC W W M	DAME.	same As 2-3' description about	
16-18	10.00			
16715	CUTTING		dark yellowish orange to moderate	ASHOMBY
•.		104R514		3 0 5
e			very coarse (I man) damp san	
<u> </u>			consolipated poorly sorted	
·			arains predominately otz	£35%) ]
			FAND K-FELDSPAY (10-15%) verd	parse ghains
			approx 10% of composition.	J.
10 = -025				
18.5-235				
	7.0 KUN	3.0 reco	helsa	
18.5-21	E	IONRUID		3 34
10.0121	5 COTE	10 M DID	dark yellowish orange med to	
			damp to moist sand . oredomina	1 1
			and K-Feidspar (5-10%), poortu	
			med to prorty sorted . sub-Ar	guar to
			sub-rounded grains.	700
			grains generally coarser fr	5m 20.5 to
			11.5 bs.	
		C) A		
25-30	cuttoras	LOYRSIL	moderate yellowish brown to	dark well.
		IOYRULE	orange clayer sand	
		7		

Site ID	Borehole No. Aquis 3
Date(s) Drilled	Pages <u>a</u> of <u>3</u>
Coordinates	Ground Surface Elevation
Drilling Co. and Driller	Total Depth
Drilling method	Depth to Water
Borehole Diameter	Static Water Depth
Logged by	
Comments	

			Lithologic Description	
Depth (ft bls)	Sample type and recovery	Color (GSA chart)	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	IDYRIDIO	clark uelloursh erange coars	
	ė.	,	VET 4 COATSE (1.5 - 2.0 cm.) 84	nd claveu
			sand damp to moist sub-k	mailar !
			arains, soorly sorted, mad.	ronsolidated
·			Thue to damp day present ).	
			5-10% clay mineral 10% Re	ldspar
			-75% ot?	
33.5-38.5	core		4.0' Run, 2.8' Recovered.	
	3 core	IOYROLD		ded sand
			& clay ? clay zones loctures	33.5 and
·			34.2 and 25.0-25.3	THE PARTY NAMED IN COLUMN TO SERVICE AND ADDRESS OF THE PARTY NAMED IN
			sand: coarse gr. sub rounde	d. poorly
			consolidated imoderate sor	
,			composition 70-80% stz	
	,		10% FeldSPAT. 5% Lithic Fro	aments (b! K)
			damp.	
			"	
42-44°	cuttings	ICYRLON	dark yell orange damp cla	yeysand.
47-49'	nu tina	104R5/4	mod. yell brown damp clave	usand
	1	1	clay munerals ~ 30-40%	M
			sand - med to coarse med-we	l rounded
- Company			mod - well sorted, moderate	ly consoliciated
and the same of th			GAZTICH SAND.	
50-55	cutinas	same	same description as 47-491 cut	Inas
-				,
55-60"	authra:	SAME	same description as 47-49'	puturgs
1-2-1				
		1 1 2 5 7 7 7 1	darkuellowisherange damp	
102-60	<b>CAMAR</b>	LOAKOLO	Cark verous varinge damp	La of Cont
		1	goarse sand grains coarse Le	LA LO LO MAN
			poorly sorted poorly consolidate	
			Comp: 52 175% Feldspar	110767070
1		1	sub-vounded around	1.

Site ID	Borehole No. AaLUS	3
Date(s) Drilled	Pages3	of 3
Coordinates	Ground Surface Elevation	
Drilling Co. and Driller	 Total Depth	
Drilling method	Depth to Water	
Borehole Diameter	Static Water Depth	
Logged by		
Comments	 	

			Lithologic Description	
Depth (ft bis)	Sample type and recovery	Color (GSA chart)	Grain size %, sorting, roundness, mineral composition %, consolidation (none, poor, well), and moisture content (dry, damp, moist, wet)	Other characteristics and drilling comments
67-68	OYRULE	eprinters	dark yellowish orange moist coa	rse sand
		,	clayminisals 4570 Otz 4800	
			feldspar = 10% Cithic Fragments	
			poorly consulidated. Mederate	
			mod-rounding (sub-rounded	diany)
	<u> </u>		<i>-</i>	
WB.5-73	D cors		4.0' Run; 3.0' Aecovered	
		The state of the s		
68.5-71.	b core	WARTH	grayish grange to dark yell	buish dang
		IDYRUL	damp sand : coarse to	
			very coarse ( want ) arounsize	
			10% at : 5-10% Feldspar	10% (14/2)
			Frag. subdigular to su	p-rounded
			not consolidated.	
			Representative samples take	LI LOW
	ļ		69.0-69.6 \$ 70.9-71.5	
Bal	cuttings	23:25	Lance documents of the TI	2 1
70'00	CHIEVED	SAME	same description as 108.5-71.	8
65-85	and the	S SAMO.	SAME description as los. S	112
<u> </u>	CULTURA	D SHAMP.	DAME OF COST HEN OF COST	
CR S-R	7 7 000	LOYR6/2	9.2 recovered	
	f. one			Jaravel
		1-2-10	59002 115% Flaspar 115	
		اندی دی	- 1090 Lithic Trag.	- 20 00 J
			for consolidation sub-round	
			FOR CONSTIDUCTORY SOCIOUS	
			poor sorted gr. sue range F	JOVE U-LIMIN
	1		TO LIVETTO	3
			water level encountered du	Lina
	<u> </u>	,	As a Bar A = RIX 1 has	
25- 48	e uttono	10401-1-	same as of scribed in 83.5.83	7 ' nare
	1			1
90-02	11.4	17/10/-/-	same as described in 8	\$ 5-827'
N-YL	Cuttings	1072812	same as ous cruised in 8	2-60
				Cose

Form No. GWS-25

# OFFICE OF THE STATE ENGINEER COLORADO DIVISION OF WATER RESOURCES

DIV. 8

818 Centennial Bldg., 1313 Sherman St., Denver, Colorado 80203

(303) 866-3581

AUTH

WELL PERMIT NUMBER

WD1

251828

MD 9

**APPLICANT** 

APPROVED WELL LOCATION

ADAMS COUNTY

DES. BASIN 5

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:

(303) 236-4882

PO BOX 25046 MS 415

LAKEWOOD, CO. 80225-

## PERMIT TO USE AN EXISTING WELL

US GEOLOGICAL SURVEY DENVER FEDERAL CENTER

#### 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 Lus5 Page 1 of 2

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

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

	COMPLETION MATERIALS	AMOUNT	FROM	то	TOTAL LENGTH
COMPLETION ELEMENT		(by weigh) or volume)	feet (or meters)	feet or meters)	meters)
PRIMARY FILTER PACK	10-20 Colo. Silica	9-5016	90Abls	76.76ls	13.3
	Sand			-	
				٠.	
SECONDARY FILTER PACK	none				
					,
	·				
ANNULAR SEALS	1/4" coated Bentonite Pellets	1-5016 pail	76.7615	74.8bls	2.14.
	Bentonite Chips				
·		O			
SURFACE SEAL	Bentonite Grout	7-50 16 bags	73.0bls	2.5 bls	70.5 ft
	1	10-8016 bags			
		0			
WELL PROTECTOR	6 diameter steel		= 2.5bs	-2.5bls	5.0A
	W/locking cap				

COMMENTS: bls: below land surface
Well completed by S. Paschke

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

			Page 2 of 2
RECORD OF WE	LL COMPLETION: WI	ELL-COMPLETION DIAG	-
SITE ID 395450104	14027-01	STATION NAME	
OTHER ID AGLUS - \$		COUNTY Adams	STATE CO
OWNER Van Schaa	cle Holdings UD.	DRILLER USGS Units used (circle one): Geet / r	meters / other
Indicate lengths of casing and screen	Indicate casing and screen characteristics		
<b>A A</b>	Indicate thickness		
2.40	and types of well- completion materials	1	Notes
	7 6 -	o"Steel Surface Suckorele 4' dia. op of Benton Sch40 TFJP - Well CAS - 10-Slot - Well Doi	
90.12	74.8	Top of Bento	inche Jellets
10.12			
	76.7	D' TOP OF SAM	DPACK.
9.79	79.7 71.7	19 Top of Scr	eened Interval
10.54	87.5	38 Bottom of S	breened Interva

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

Site ID  Date(s) Drilled Coordinates  Drilling Co. and D Drilling method Borehole Diamete Logged by	1044027 119103 54'50.8" USGS CME8S	tollow thollow	10'27.82" OSlem Auge	Pages Ground Surface Elevation Total Depth	5.5 5.3 5.398 90.12 760.1	5318 BIS 04 'BIS	meas 4/03
Comments							
						-	-
							_
			Lithologic Description				1

			. Lithologic Description	
Depth (ft bls)	Sample type and recovery	Color (GSA chart)	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	LOYRSY	moderate yellowish brown	damp
	3	<u> </u>	well sorted sut & very fine	sand.
			Feldspar granules 2-4 min	unsize
	1		sub-rounded - rounded	
<u>3,5-8.5</u>	core.		50/S.0' Recovered	
			-	
3,5-8,5	core	104RS/	y moderate yellowish	brown
		,	Silty very fine sand.	caliche
			(Strong HCL AXA), uncon	solidatea
			daring. Sub to well rou	nded
	The second secon		well sorted homogene	ous textu
			,	
9-10	cutter	s 104QS	14 same composition	AS
			described 435-8.51	
			Slightly better consolic	Lation
			w/ calche	
13.5-18.	s core		5.0/5.0' Recovered	
		1		
13.5-13	it core	104RS/	Fire sand poorly consolidat	to, very
		0 .		od damp
			Sub-rounded - mod-wel	LSOMO!
			homogeneous texture.	
				1, ,
13.7-18.	s core	545/2	light olive gray to medium	
		719	gray Claystone bedrock	Denver Fm
			Te stained contains	170
	-		organic material	- Damp to
			moist, well-consolidated	2/ .
A2-23'	cutten	gs <del>Syls</del>	14 medium dark gray to ught olive gray damp cla	
		549;	2 ught olive gray damp cla	ystone.
		J ,	· · · · · · · · · · · · · · · · · · ·	
-				

Site ID		Borehole No. Agus-5
Date(s) Drilled		Pages of 3
Coordinates		Ground Surface Elevation
Drilling Co. and Driller	 	Total Depth
Drilling method		Depth to Water
Borehole Diameter		Static Water Depth
Logged by		
Comments	•	
		•

			Lithologic Description	
Depth (ft bls)	Sample type and recovery	Color (GSA chart)	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	
35.5-28.5	s core	545/2	Light Dive gray to medium	arkgray
		NY	Light Dive Gray to medium of damp claystone Fe-stained Fractures, well-consolidate	ed.
2-33	cuttings	24	medium dark gray damp c	aystone.
37-39	cuttings	204	medium dar k gray damp c	aystone.
42-44	cuttings	N4	medium dark gray damp o	laystone
16-48	cuttings	24	med . dark gray damp clay	tone.
52-54	cuttings	124	med dark gray damp chys	tone
57-59	cutting	s NY	med. dark gray damp clo	lystone.
02-104	cuttings	NY	med. dark gray damp clay	tone
07-69	cuttings	N3	part gray damp claystone	
68.S-73	score		44 S.O' RECOVERED	
08.S-73	a core	N1 N4	Black grading into & medingray (at approx. 70' Bis). 6 Friable COAL damp clays	8,5-70,0
			70.0-73.2, Fe-staining 4/0 20nes poorly consolidated	ng fractu
			gets sandy from 72.8'-	
74-76	cuttings	<b>14</b>	medium dark gray damp s claystone	Andy

Site ID			В	orehole No. Aquus -	5
Date(s) Drilled				ages 3 of	3
Coordinates			G	round Surface Elevation	
Drilling Co. and D	riller			otal Depth	
Drilling method			D	epth to Water	
Borehole Diamet	er _		S	tatic Water Depth	
Logged by			<u> </u>		
Oammanta			•		
Comments					_
	- 111		Lithologic Description		
	Sample type and		Grain size %, sorting, roundness, mineral of	composition %, consolidation	Other characteristics and
Depth (ft bls)	recovery	Color (GSA chart)	(none. poor, well), and moisture content (de		drilling comments
77-79	cuttings	N1-N2	Black to Grays	h black da	MP
	J		claustone. Dro	bably cont	1 * 1
			unterbeds of co		
82-84	cuttings	NZ	grayish black d	amo chis	tone
0=0,	- U		3.00	COTT CAG	13:70
87-89	cutting:	511037	grayish brown	ala Hano	damp
0101	Courte M.	3 JAKSIE	to most.	Cayo	Gary
,			to most.		
00 C 9h	o core		1.5 / 1.5' Recov	morad	
000-10	UCUIE		A.S / A.S MECOV	icity	
00 C-9h	o core	101108111	moderate uellous	sh brown to	pale yellows
00.3-10	0 010	1002319	TVECTERATE GENERAL	sh prown to	
		MAKOIS	EN LOCATIONE STATE	ind well with	et mealum
			SANOSTRUCIUS SOC	1	roled.
			mod-poorly con	·	homogeneous
			texture. Otz-R		
		<u> </u>			
·					
	-			·	
		-			
			arrange of the state of the sta		
			-		
			-		
	-		The state of the s		
		1			
	-				
	1				

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

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

Ft. from East

Section Line

UTM COORDINATES

Northing:

Easting:

#### ISSUANCE OF THIS PERMIT DOES NOT CONFER A WATER RIGHT **CONDITIONS OF APPROVAL**

- This well shall be used in such a way as to cause no material injury to existing water rights. The issuance of this permit 1) 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.
- 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.
- 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.
- 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.
- 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.
- Upon conclusion of the monitoring program the well owner shall plug this well in accordance with Rule 16 of the Water 7) Well Construction Rules. A Well Abandonment Report must be completed and submitted to the Division of Water Resources within 60 days of plugging.
- 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.
- 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 Page 1 of 2 AgLUS6 TIME <u>8:30 Am</u> START WELL COMPLETION: DATE 1 / 10 / 03 DATE 1/10/03 TIME 12:30 pm FINISH WELL COMPLETION: TOTAL COMPLETION MATERIALS AMOUNT FROM TO LENGTH COMPLETION ELEMENT feet or (by weight or volume) feet (or meters) feet Or meters) meters) PRIMARY FILTER PACK 0-20 Silica Sun 11-50166 5.0 SECONDARY FILTER PACK none ANNULAR SEALS 1.70 Bentonite chips 1/2-5016bag 25.3 1.0 Bentonite grout 4-5016 bag 24.3 aa.3 SURFACE SEAL Quick Crete Cener 7-50 lb bags 2.0 a.0 6 steel WELL PROTECTOR 5.0 locking cap

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

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

TE ID 3759 09104	1350401	STATION NAME Ag LUS - Co
OUAD Adzums (	2016 DDD	county Adams state CO  DRILLER USGS
WNER Richard	dorth	DRILLER USGS
Indicate lengths of	☐ Indicate casing and	Units used (circle one): feet / meters / other
casing and screen	screen characteristics	
	Indicate thickness	
Tall	and types of well- completion materials	
	completion materials	Notes
		Concrete pad + Seal
		Concrete pad + Seal Bentonite grout
		Dentonite growi
.34		
42.44		
70.77	24.3	Bantonite Chips
	228 25.3	
	(000) 27.0 Kg	Bentonite pellets
	σο δο σ	
	6000	- Water encountered @28 during dr
	000 38.00	
	27.0	1 of sand fack
	32.06	Top of SI = 32.06 (+ 6/s
		10/06 21-20.06 / 815
9.81		
1.01		
	:-:: 41.87	
	11.0	Bottom of SI = 41.87 Lt bls
v v 0.57 \/		2.101119

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

Comments

Site ID 395909104350401	Borehole No. AqUS-6
Date(s) Drilled 1-9-03, 1-10-03	Pages of 2
Coordinates <b>N 39 59'09.73", WIOY'35</b> 04.44"	Ground Surface Elevation
Drilling Co. and Driller	Total Depth 42.44 615
Drilling method cme 85 Hollow Stem Auger	Depth to Water 28.5 bls
Borehole Diameter 9"	Static Water Depth 27.15 bis (meas.
Logged by S. Paschke & J. Beck	4/3/03
	·

:	-		Lithologic Description	
Depth (ft bis)	Sample type and recovery	Color (GSA chart)	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	104R514	moderate yellowish brown sa	ndy silt
	5.0' Rec	overed	dry- sand: Fine grained	
			calliche zone From 10.5-	7.5
		-	moderately consolidated	
12-131	cuttings	104R5 4	moderate yellowish brown	
	3	3	sardy clay - dampto mois	<del>}</del>
			sand wakes up < 10% of s	ample
			composition sand = fine gra	
			well sorted.	
13.5-18.5	core		5.0' Run 5.0' Recovered.	
•				f.
13.5-18.5	core	104854	moderate yellowsh brown	
			szindy clay damp, sar	d=10%
·			of total Sample Composition	<b>D</b>
			uniformly distributed. Fi	ne grained
			well sorted. underate-	well
			compacted.	
18.5-23.5	core		5.0' Run, 5.0' Decovered.	
18.5-225	Core	104RS/4	moderate yellowah brown Samedescription as 13.5-18.8	
		, ,	same description as 13.5-18.5	"interval
			•	
22.5-23	5 core	104854	mod yell brown sandy cla	4
			sand makes up 125% of 5	Ample.
			composition, spnd= very	finegrain
			well-rounded, well sor	ted.
			loosely compacted. damo.	
		,		
26-28	cuttings	104RS/4	moderate yellowish brown S etay clay somed AS 225 - 235 interv	andy.
	,	U	clay somed	scription
			AS 225 - 23.5' Unterv	ap

Site ID Date(s) Drilled Coordinates Drilling Co. and I Drilling method Borehole Diame Logged by			Pages Ground Surfac Total Depth Depth to Wate	Ground Surface Elevation		
Comments						
			Lithologic De	escription		
	Sample type and		Grain size %, sorting, round		4 consolidation	Other characteristics and
Depth (ft bls)	recovery	Color (GSA chart)	(none, poor, well), and mois	ture content (dry, damp, mo	ist, wet)	drilling comments
28.5-3	.5' core	***	5.0' Run,	3.0' Recove	ered.	
28.5-31	5 core	104AS/4	moderate	Yellowish.	hrown	wet sand
,		· 0	rough Finu	nd upward	· Not	consolidate
			well sorte	at, well	Londa	Caldagas
			95% Q12	tragmen	157	<i>feldspar</i>
			76 4712	*		
35-37	cuttings	104R5/4	SAME ASOLU	icribed in a	8.5-31.5	core
	,		THE PROPERTY OF THE PROPERTY O		· · · · · · · · · · · · · · · · · · ·	
39-41	authoras	104R SA	Same as a	les cribed in	58 6-31	-6.50
9/_/'	curo 93	10 /20 41	arras as s	a cases.	00,0001.	3 4016
		-				
				***************************************		
		·			4	
				•		
						440
						TO Describe
					-	
				· · · · · · · · · · · · · · · · · · ·		
	1		Sign of the sign o	27		

Form No. **GWS-25** 

# OFFICE OF THE STATE ENGINEER COLORADO DIVISION OF WATER RESOURCES 818 Centennial Bidg., 1313 Sherman St., Denver, Colorado 80203

(303) 866-3581

**AUTH** 

WELL PERMIT NUM	BER250286	-
DIV 1 WD1	DES. BASIN	 MD

**APPLICANT** 

APPROVED WELL LOCATION ADAMS COUNTY

1/4 NE 1/4 NE Section 19 Township 2 S. Range 64 W. Sixth P.M.

DISTANCES FROM SECTION LINES

Ft. from North

Section Line

1225 Ft. from East UTM COORDINATES Section Line

Northing:

Easting:

#### PERMIT TO USE AN EXISTING WELL

(303) 236-4882

PO BOX 25046 MS 415

LAKEWOOD, CO. 80215-

US GEOLOGICAL SURVEY DENVER FEDERAL CENTER

#### ISSUANCE OF THIS PERMIT DOES NOT CONFER A WATER RIGHT CONDITIONS OF APPROVAL

- 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.
- 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.
- 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.
- Approved for the use of an existing well acknowledged for construction under monitoring hole notice MH-41690, and known as AGLUS8.
- 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.
- 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.
- 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.
- 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.
- 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 WE	LL COMPLET	ION		Page 1 of 2
START WELL COMPL	LETION: DATE 1	15/03	TIME 1	4:36	•
FINISH WELL COMPI	LETION: DATE <u>l</u> /	16/03	TIME _	7:30	
	COMPLETION MATERIALS	AMOUNT	FROM	то	TOTAL LENGTH
COMPLETION ELEMENT		(by weight or volume)	eet (or meters)	feet (or meters)	eet (or meters)
PRIMARY FILTER PACK	10-20 CO. SUICA-SA	nd 4-soubbag	s 68.46	56.0	
				-	
SECONDARY FILTER PACK	none				
				-	
,	*				
ANNULAR SEALS	1/4" coated bentonia	e 1-5016 bucket	5le.0	535	2.5
	Bentonite grout		53.5	0.5	53.6
	Quick Crete Concre	k 8-80 lb	0.5	0-0	0.5
SURFACE SEAL		<b>V</b>			
			·		
			. \ \	74	

COMMENTS: measurements are in ft. below (and Surface (b)s)
- Well completed by JBeck

6"steel surface

casing w/ locking CAP

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

WELL PROTECTOR

E ID		STATION NAME AQLUSY
HER ID		COLINTY Adams STATE CA
NER		COUNTY Adams STATE CO  DRILLER USGS  Units used (circle one): (fee) / meters / other
Indicate lengths of casing and screen	Indicate casing and screen characteristics	Units used (circle one): (ee) / meters / other
\.8b	Indicate thickness and types of well- completion materials	Notes -
<b>Y</b> .		
<b>A</b>		6" steel surface casing w locking ca Puckesure 4' diam concrete while
		<u></u>
		2" sch 40 PVCTFJ well casing, 2" sch 40 PVCTFJ 10 slot screen
		a" sch 40 PVCTFJ 10 slot screen
		TES Evell point end cap
		Bentonite grout to Surface
32		Top of Bentonule Pellets
	53.5	top or beinongepeners
68.46		
	5000	
	2000	
	56.0	TOP OF 10-20 SAND PACK
	Vi. j. j. j.	THE DATE OF THE PARTY OF THE PA
	[ ] [ ] [ ] [ ]	
	100	
<u> </u>	58.17	Top of screened Interval
	V : 6: 59.0	Water Level Encountered during
		drilling
9.72		<u> </u>
7,72		
	1 20	Bottom of screened Interval
*	10110	

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

Site ID	Borehole No. Aquis	58
Date(s) Drilled 1-15-63	Pages	of A
Coordinates	Ground Surface Elevation	_5385
Drilling Co. and Driller USGS	Total Depth	108.46
Drilling method CNE 85	Depth to Water	
Borehole Diameter	Static Water Depth	
Logged by JBeck		
Comments		

Depth (ft bls)	Sample type and recovery		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 (Locss) dry	
8.5-13.5	core		5.0' Recovered	
8.5-10.0		104R514 to	uoderate yellowish brown to	
	ļ	104R4/2		
			sut, some isolated somes	·
			of caliche - strong HCL RXn.	
10.0			contact between silt & clayston	16
10.0-13.5	- V	104R 5/4 4/2		
			damp calcite crystals visit	dl.
17'-19'	cuttings.		damp, dark yellow brown clayst	me.
22'-24'	cuttings		same claystone.	
25-26'	25-26' cuttings		cuttings change from clauston to Fine gr. compacted sandst	<u> </u>
			to Fine gr. compacted sunast	one.
33.5-38.	s core	44.50	5.0' Recovered.	
33.S-36.S			Very Pale Orange to	,
		104R7/4	grayishorange	
			fine grained wellsorted,	
			well rounded loosely	
			compacted sand dry:	
36.5-36	.9	SAME	SAME AS Above	
			horiz. layers of Festaining po X-cutting of 2 Veins	resent
			X-cutting of veins	
36.9-38	5	same	Same discription AS 33.5-36.9	s interval
	<b>→</b>	:	Same discription AS 33.5-36.9 well compacted sandstone	
45'-46'	cuttings		cuttings o containing more clay	
	· · · · · · · · · · · · · · · · · · ·		(octayey sond)	
52-54	auttings		clayey sond damp	
57-59	cutturgs		same as above	

Site ID		Borehole No. AqCU	158
Date(s) Drilled		Pagesa	of $oldsymbol{\mathcal{A}}$
Coordinates		Ground Surface Elevation	
Drilling Co. and Driller USGS		Total Depth	V8.46'
Drilling method cme 85		Depth to Water	
Borehole Diameter		Static Water Depth	
Logged by Beck	,	•	
Comments			·

	<del></del>			·
			Lithologic Description	
	Sample type and		Grain size %, sorting, roundness, mineral composition %, consolidation	Other characteristics and
Depth (ft bls)	recovery	Color (GSA chart)	(none, poor, well), and moisture content (dry, damp, moist, wet)	drilling comments
58.5-63.5	Core	1011	5.0' Recovered	Encountered
		104K616 to	Dark Yellowish Orange to	water near
		104R5 4	Moderate Hellminish Brown	601
			Wet Fine - Med gr. sand nomageneous throughout core interval.	Waterlevel
			nomogeneous throughout	Meas = 100.85
			core interval.	RISING
			moderate to wall sorted	ر
			preserved core samples from the Enterval Represententire inte	2
			interval Represententine inte	rval -
			·	
2				·
			<b>X</b> 8	***************************************
·				
		·		

### OFFICE OF THE STATE ENGINEER COLORADO DIVISION OF WATER RESOURCES

818 Centennial Bldg., 1313 Sherman St., Denver, Colorado 8020

(303) 866-3581

WELL PER	MIT NUMBER	249372			
DIV. 8	WD1	DES. BASIN 5	MD	9	

APPLICANT

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

(303) 236-4882

PERMIT TO USE AN EXISTING WELL

APPROVED WELL LOCATION

ADAMS COUNTY

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

**AUTH** 

2640 Ft. from West

Section Line

UTM COORDINATES

Northing:

Easting:

#### CONDITIONS OF APPROVAL

- 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.
- 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.
- Approved pursuant to CRS 37-90-105(1)(d). Use of this well is limited to monitoring water levels and/or water quality sampling.
- This well must be equipped with a locking cap or seal to prevent well contamination or possible hazards as an open well. 4) The well must be kept capped and locked at all times except during sampling or measuring.
- 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.
- 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.
- 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.
- 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.
- 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.

#### RECORD OF WELL COMPLETION

Page I of 2

START WELL COMPLETION: DATE 63 / 07 / 03 TIME 14:00

FINISH WELL COMPLETION: DATE 03 / 08 / 03 TIME /2:00

COMPLETION ELEMENT	COMPLETION MATERIALS	AMOUNT	FROM	ТО	TOTAL LENGTH
COMPLETION ELEMENT		(by weight or volume)	(eeD(or meters)	feet (or meters)	reer (or meters)
PRIMARY FILTER PACK -	10-20 COSPRES SILLASARD	10.25 x 50 11 to	44.43	28.0	16-43
			American state of the state of	THE CONTRACTOR OF THE CONTRACT	
				-	
SECONDARY FILTER PACK	NONE				
ANNULAR SEALS	YH COATES BENTONIA	bucket	28 .0	26.0	2.0
	BENTONITEEROUT	2,5×50lb	26.0	3.0	23.0
		Sauser V.	-		
SURFACE SEAL	DuickereleConcret	e e.p.x 80 e.b.bags	3.0	0	3.0
		1			
			-	•	
WELL PROTECTOR	6'steel Surface		-2.4	-2.6	5.0
				-	
					-

COMMENTS: - MESSUREMENTS ARE IN FEET BELOW LAND SURFACE - WELL COMPLETED by J. BECK.

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

		Page 2 of 2
	1	WELL-COMPLETION DIAGRAM (Single-well site)
SITE ID 394539104	130590)	STATION NAME Aglus 12
OTHER ID SCOOSOL 7.5' QUAD QOOMS CO. OWNER FRONT RAISE	.Co Sheet2	COUNTY Adams STATE C.O
OWNER FRONT RAVE	as Airport	DRILLER USSS
Indicate lengths of casing and screen	Indicate casing and screen characteristics	Units used (circle one): feet / meters / other
2.5	Indicate thickness and types of well- completion materials	Notes
46.93	30	b"stall surface casing will tack ing cap  Quick crete concrete well pad ('4'dia)  Tap of Bentonike growt  TET PVC sch. 40 21':  - urlicasing  - 10-slot socien  - well point endeap  Tap of Bentonike pellets
		28.0 Top of Sandpack
	31.0	Water Level Encountered during
		34-16 Top of Screened Interval
9.69		
0.50		43.85 Bottom of Schooled Interval

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

Site ID <b>394539104365901</b>	Borehole No. AqLUS 12
Date(s) Drilled 03/07/03;05/08/63	Pages of 2
Coordinates N39°45'39.29", W 104° 30'59.54"	Ground Surface Elevation 5538
Drilling Co. and Driller. USGS "	Total Depth <u> </u>
Drilling method CMERS + Hollow Stem Ager	Depth to Water 31-0
Borehole Diameter 4'	Static Water Depth 30.75 (meas. 3/3/103)
Logged by	3/31/03
Comments	

	The second secon		Lithologic Description	
Depth (ft bis)	Sample type and recovery	Color (GSA chart).	Grain size %, sorting, roundness, mineral composition %, consolidation (none, poor, well), and moisture content (dry, damp, moist, wet)	Other characteristics and drilling comments
0-5	CUTTINAS	IOYRblu	darkyellowish orange sandy sill	dry
86-7	cuttings	10YR6/10	dark yellowish orange dry sandu	SUL
			not consolidated	
12-13'	cuttings	loyesly	moderate yellowish brown of SArd = Fire to wed grained,	
			grains otzrich. Clay & 40% sand = 50-60%	
			moderately consolidated	dame
15-20'	cuttings	ioyr sil	moderate yellow brown toys damp. Lied grained sand. consolidated of the consolidated	POORLY
22-23'	cuttings	1042514	moderate yell brown damps med to coarse to very coarse	sand
			arauns. Very coarse grains sub. Angular to sub-rounded grains esto ot 2 10% feldspar 5% 1 poorly consolidated, poorly s	25% Juno Whicfag.
25-28	custings	SAME	same description as 22'-23'	
28.5-35	core		4.0' Run ; 2.0' Recovered.	
285-29-	2 core	104272	aray ish orange med to coa Sub-rounded araund mod to poorly consolidated. Coarsean	posity sorted
			25% Otz 5-10% K-Feldspar	5% Lithic Frag.

Site ID			Borehole No.	* and
Date(s) Drilled			Pages 🚅 of	2
Coordinates			Ground Surface Elevation	
	)rillor			,
Drilling Co. and D	VIII EI		Total Depth	
Drilling method			Depth to Water	<u> </u>
Borehole Diamet	er ·		Static Water Depth	
Logged by				
			•	
Comments				
			1 24 - 1 - 2 - 2 - 2 - 2 - 2	
			Lithologic Description	
	Sample type and		Crain size 9/ porting roundpass minoral composition 9/ consolidation	Other characteristics and
Depth (ft bis)	recovery		Grain size %, sorting, roundness, mineral composition %, consolidation (none, poor, well), and moisture content (dry, damp, moist, wet)	Other characteristics and drilling comments
				7.
29.2.29.8	CORE	104R72	same sand as dulos in 28.5-29	1.2 Unterral
	-		Highly Fe-Stained - dam p	
97.8-3dS	COLE	IDURT/2	Same cleser, 45 28.5-29.2 L	KHE FURU
			damp to woist	
34-35	cutting	10407/2	grayish orange med to controlly consolidated, dampte	se sand.
	,	, ,	cubrounded agains mad so	una '
			Sud Bur Dea grades, mile. Sur	10.1
			poorly consolidated aampto	most
			· ·	1
39-42	cuttonex	104R7/2	same as described in 34-35	interval
21-10	20,10 10/5	1092 1/2	Saure as heser cock or st ss	717700
•				
				1
				<u> </u>
		<u> </u>		
			-	
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# 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 WD1 DES. BASIN 5 MD 9

**APPLICANT** 

APPROVED WELL LOCATION

ADAMS COUNTY

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

Ft. from East

Section Line

UTM COORDINATES

Northing:

Easting:

(303) 236-4882 PERMIT TO USE AN EXISTING WELL

PO BOX 25046 MS 415

LAKEWOOD, CO 80225-

US GEOLOGICAL SURVEY DENVER FEDERAL CENTER

#### **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.
- 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.
- Approved pursuant to CRS 37-90-105(1)(d). Use of this well is limited to monitoring water levels and/or water guality
- This well must be equipped with a locking cap or seal to prevent well contamination or possible hazards as an open well. 4) The well must be kept capped and locked at all times except during sampling or measuring.
- 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.
- 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.
- 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.
- 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.
- 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.

Aguisis

#### RECORD OF WELL COMPLETION

Page 1 of 2

START WELL COMPLETION: DATE 3 /16 /03 TIME 12:00

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

		1		1	TOTAL
COMPLETION ELEMENT	COMPLETION MATERIALS	AMOUNT	FROM	ТО	TOTAL LENGTH
COM EDITOR ELLIVERT		(by weight or	· feet (or	feet (or	feet (or
	* ,	volume)	meters)	meters)	meters)
DDDA A DV EV TED DA OV	CO SPRES 10-20	84500b	84.3	^	
PRIMARY FILTER PACK	Silicasand	Vacas	57.3	6.PW	14.8
•		. ,			-
SECONDARY FILTER PACK	NONE				
·	-				
ANNULAR SEALS	1/4" COATED BENTONU REVIETS	t 1,5 x solb	69.5	ww.5	3.0
	Bentonite Grout	F.S.XSOLL BOLOS	5. هی	3,0	63.5
		L			
SURFACE SEAL	quickerete conclute	8 × Eo.ab bags	3.0	0	3.0
WELL PROTECTOR	6' steel surface cash	ing \	₽.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.

ITE ID 🧲	39473110	4260001	ELL-COMPLETION DIAGRAM (Single-well site)  _ STATION NAME <u>Aq LUS 13</u>
THER ID	SC 0030	426000   06316 BDD .Co Sheet 2 Nation Admin (FAA	- i.
o Quad Wner <b>t</b>	ederal Av	120 Sheet 2	COUNTY Adams STATE CO
•		•	Units used (circle one) feet / meters / other
Indicat	e lengths of and screen	Indicate casing and screen characteristics	The second secon
	The server	_	
A	4	Indicate thickness and types of well-	
6	.5	completion materials	Notes
'		2.1	110165
		/ <del>//</del>	6"Steel Surfact Cosmo wilklings
			PUICKCILL CONOULE WEST PAGE TIN
	-	30-	TOPOF BENTONIE Chouse
		1///	
		- //	2"TFJ PVC Sch 40:
		/ /   .	- Welloasing
			- ID-Slot Streen
			- urll point endeap
	-	/ /   -	
		/ /   -	
		-	
		/ /  -	
		-	·
_		/     -	
9.E	-		a Tais Barbar la sallata
	-	0000	s Top of Bentonite, pellets
84	-3	000	Abterlevel encountered during
		700000	drilling
			0
		000	9.5 Topof Sandrack.
		- ( ,	4.5 Topoe screened intervol
-	A		
			· · · · · · · · · · · · · · · · · · ·
	9.72	-	
		-	
	9.72		
1	*   8		3.72 Bottom of Screened Therm

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

Site ID 39473110426001	Borehole No. AGUIS 13
Date(s) Drilled 3110103	Pages of 2
Coordinates N39° 47'31.75", WID4°26'00.38"	Ground Surface Elevation 5434 5409
Drilling Co. and Driller	Total Depth SU.35
Drilling method CMF 85 Hallow Story Aper	Depth to Water 69.55
Borehole Diameter $q^{\ell^g}$	Static Water Depth <u>67.2 (MARS 5-3</u> )-05
Logged by Jeck	, ·
Comments	

			Lithologic Description	
Maritimes			Zanising a decompact	-
Depth (ft bls)	Sample type and recovery		Grain size %, sorting, roundness, mineral composition %, consolidation (none, poor, well), and moisture content (dry, damp, moist, wet)	Other characteristics and drilling comments
0-5	custings	PIF SYCH	growish eronge dry side	
		-		
10-4	cuttings	Dyrbb	dark yell orange dry sult dry to damp (f.s-8,5' b)	5
	9		ary to damp (7.5-8,5 6	)
15-15	cuttinas	IDYRULD	dark yell. omnge damp day	-
1000	0	10/10/10	Jan K gen . Oran ge danny con	
16-17	authinas	104R4/2	Darkyell . brown dzw. D cla	u
	· · · · ·			1
20-25	cuttings	same	sameders as 16-17 bls cutter	95
	6		damp to moist. Druled ver	130=+
23.5-28.5	A > CC			
(2002 60.0	rose	NATURAL PROPERTY OF THE PROPER	4.D'REEN RUN, 2.D' RECOURTES	ء ــــــــــــــــــــــــــــــــــــ
28.5-25.5	COCE	IOVRbb	Dorkvell orange damp class	neu sand.
			clay wirelak Esp sund	
				ellsorted
	,		poorly consolidated 90%	the contraction
	E CONTRACTOR CONTRACTO		5% FELSEN = 5% WHICH	gmess.
30-55	an Hinac	IOYRELL	de al ciel em ma a la ciel SAh	1. domp
	T. Charles of		dark yell orange abyer san	r. jacore
35-45'	cuttino	104R54	Mod yell brown clayinson	L. Ardling
			VERY SOFT	
	- )		6	
16-41°	cultings	10982A	und. Yell brown damp sand	50 0 6 0 0 0 0
			colarier - clay murchall = 5%	
			med to correct or very correct w/	
			THE CORES CHOIL SUPPRI	A
10 Per 10			grains. 1>80% Ptz	
4S-5D'	cuttings	104RS/4	Moderate vellowsh brown down coatse sand	P
			coatse saria.	Þ
ALIAN CONTRACTOR CONTR		Section 2		Y AND THE STATE OF
	1			

Site ID		. ur		Borehole No.	ILUS 1	
Date(s) Drilled			F	Pages 🙎	of	2
Coordinates				Ground Surface Ele	evation	
Drilling Co. and D	Driller		-	Total Depth		•
Drilling method			•	Depth to Water		•
Borehole Diamete	er ·			Static Water Depth		
Logged by						
Comments						
	<del>*************************************</del>					
PARTY HUMANIES THE COMMENT OF THE CO					*	
	-		Lithologic Description		***************************************	
Depth (ft bls)	Sample type and recovery	Color (GSA chart)	Grain size %, sorting, roundness, mineral (none, poor, well), and moisture content (d			Other characteristics and
51-52	Cuttings	IOVESY	1 2 22 2 2 1		E1)	drilling comments
	CALLINAS	101837	ma. Jell. brown . au	the me		ery COAKEL
		F -	(1.5 CM) Sance. p	os pirca	rta.	POOLIA
			CONSOLIDENCE LOS	ae offic		المتعاكل
			arous (71cm)	dour	inera	Li 65%
			Pondosition. S	2% 07-	,157	i Peldsour
			155% DILHIC FOO	in-profit		regular
			arins.			0
			3			
58.S-63.S	core		4.0' RUD . 3.0' RA	en sere	40	
			1 C BUIL , S.U FE	ente el	250	
56.5-61.S	C 000	1-015-701		diam		Contract of
العاما العادي العادي		DAKILA	Clausan Brange	· ald 1	5 CULL	MA SHILL
	P .		booked souted	- Popell	(Cons	b Laurea
			SUBTRACTOR	ains.	med	TO COAKEL.
			to very coate	segh.	0.50	n to 5.0 cm
			Colbiesizo Gralk	S. 400	26 OF 2	
			130% Feldsbur			
(B-30'	authings	Samo	SAMO ADLES, OS	58.5-	61.5	CORSAMOR.
			TMMD			The control of
	<u>.</u>			***************************************	*	
4-72	eutting	IDYR HU	med. yell-brown	donir	) cas	
0 0			very course (e		SA	
1			The state of the s			
1			same number	COMPO	<u>scrept</u>	
			56.5-61.5 bls	s Cole.	SNG	NOTE
		• • •	clausey (uS-10	to ela	y mo	relats)
			0 3		<u> </u>	
75-85	Sportus	LOYESU	same desch. as	71-72	cutt	thas
	· ·					
an-81'	on Hill	K LOYRSIU	mod. Yell. brow	sh san	dua	MIL
			Hamp? clayr	verent a f	A Comment	R OP
	-			- Co.		2010
			of composition as	1: Al		Same
	·		composition as	UL 58.	3-6/	S CON
	-		sample.			
						CI-MINE POLICE
			The state of the s			AND THE RESIDENCE OF THE PARTY
-			ed activities	,		
		O	electronic and the control of the co		CONTRACTOR OF THE PROPERTY OF	

# OFFICE OF THE STATE ENGINEER COLORADO DIVISION OF WATER RESOURCES

818 Centennial Bldg., 1313 Sherman St., Denver, Colorado 80203

(303) 866-3581

**AUTH** 

<u>APPLICANT</u>

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

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 Section Line

10 Ft. from East

UTM COORDINATES\_

Northing:

Easting:

(303) 236-4882

#### PERMIT TO USE AN EXISTING WELL

PO BOX 25046 MS 415

LAKEWOOD, CO 80215-

US GEOLOGICAL SURVEY
DENVER FEDERAL CENTER

# 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.

#### RECORD OF WELL COMPLETION

Page 1 of 2

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	FROM	то	TOTAL LENGTH
COMI EL HON ELLMENT		(by weight or volume)	feet (or meters)	feet (or meters)	feet (or meters)
PRIMARY FILTER PACK	cospras 10-20 Silvasand	11 x solb	33.37	18.0	
•					
SECONDARY FILTER PACK	None				
				4	
ANNULAR SEALS	Y4" coated Bentonue bell	ets bucket	0.81	16.0	2.0
·	Bentonitegrout	3x tolb	16.0	3.0	13.0
ALM AND	. 0	,			
SURFACE SEAL	Quickcrete Concrete	8x80lb	3.0	0	3.0
		,		•	
WELL PROTECTOR	lo"Steel surface	· ·	3.0	-20	5.0
	3				
				•	

COMMENTS: - measurements are in Feet below Landsurface
- Well completed by JBeck

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

			Page 2 of 2
RECORD OF WELL	COMPLETION: W	ELL-COMPLETION DIAGRA	AM (Single-well site)
SITE ID 394947104		_ STATION NAME AGLUS 14	
OTHER ID SCOO2 OWY	CU Sheet 2	county Adams	STATE CO
OWNER James / Timo	hy Mestepey	DRILLER USGS	
	Indicate casing and screen characteristics	Units used (circle one): (fee) / mete:	rs / other
1.75	Indicate thickness and types of well- completion materials	Notes	
	3.0	TFI will pointe	using w locking cap well casing to slot screen and cap well pad 41 dia.
	-	Bentonite grow to surface (3	0+ From 10.0 0.0' 615)
	16.0-		
35.12		Top of Bentonite y	
3337	7	Top of 10-20 SUICA	sandpack
	2017	water level encount	ered during driving
	23.08	Top of screened In	terva!
	32.79	BOTTOM of scheened	interval

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

Site ID 394947104335201	Borehole No. AgLUS 14	•
Date(s) Drilled 1-17-03, 1-18-03	Pages of I	
Coordinates N39 49'47.6", WIDY 33' 352.9"	Ground Surface Elevation 54	50 5390
Drilling Co. and Driller USGS CME 85	Total Depth 33.3	7
Drilling method CME 85 Hollow Stem Auger	Depth to Water 20 .	
Borehole Diameter 9"	Static Water Depth 20.14	1 (meas 4/3/03
Logged by		
Comments		·

			Lithologic Description	
Depth (ft bis)	Sample type and recovery	Color (GSA chart)	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		mad. brown windblown silt	arming sermionic
5-6'	cuttings		sity and , damp	
8.5-13.5	core		5.0' Recovered.	
8.5-11.3		104R7/4	grayishorange dampsand, inomogeneous throughout (wrt	fine-med gr-
			grain size sorting, compactnes	5)
11.3-11.5			Same description as above	
	./		prominent Fe-Stained 2000.	
11.5-13.5			same sand as 8.5-11.3' interv	
			horiz banding of Ferovides Slightly more compact.	
. — 10 (	a		3 ,	
17-19	cuttings		cuttings containing nove cla	y (clayey sai
22-24	cuttings	•	same sandy clay / clayeys	nd
23.5-28.	S core		3.5' Recovered	
23.S-2	5.1	104R514	moderate yellowish Brown to	
		10 YR 616	dark yellowish orange	
			damp clayey sand	
25.1-27		104R7/4	sand grains are Fine- uned in	SIZE
013.1-01			grayish orange to	
		104Rb/2	pale yellowish brown	,
			dampand	
			fine-ned grained	50.11 21 2
		,	Mod-well Sovted Mod-well	
	V		Te-staining zones present	
32-34	cutting		mich to wat countries and	Encounter
2001	Cha I II U	2	moist to wet sandyclay	wester
			meas. @ 33.5'& came	cluring 30- 35' inderva
,			up to 30.9'	water level
			4 W 8017	meas = 33.5

# 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 WD1 DES. BASIN MD

APPLICANT

APPROVED WELL LOCATION

ADAMS COUNTY

1/4 NW NE 1/4 Section 31 Township 1 S Range 64 W Sixth P.M.

DISTANCES FROM SECTION LINES

Ft. from North

Section Line Section Line

2572 Ft. from West

UTM COORDINATES Northing:

PERMIT TO USE AN EXISTING WELL

US GEOLOGICAL SURVEY DENVER FEDERAL CENTER

PO BOX 25046 MS 415

(303) 236-4882

LAKEWOOD, CO 80215-

Easting:

#### ISSUANCE OF THIS PERMIT DOES NOT CONFER A WATER RIGHT CONDITIONS OF APPROVAL

- 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.
- 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.
- Approved pursuant to CRS 37-92-602(3)(b)(l) 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.
- Approved for the use of an existing well acknowledged for construction under monitoring hole notice MH-41647, and known as AGLUS17.
- 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.
- 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.
- 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.
- 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.
- 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 LUS 17 Page 1 of 2

START WELL COMPLETION:	DATE _	1/11/03	TIME <u>9:30 am</u>
FINISH WELL COMPLETION:	DATE	1/12/02	TIME 8'15 ~ m

COMPLETION ELEMENT	COMPLETION MATERIALS	AMOUNT (by weight or volume)	FROM feet (or meters)	TO feet (or meters)	TOTAL LENGTH (ee) (or meters)
PRIMARY FILTER PACK	10-20 5ilica Sand	10-50 lb bags	82.74	70.44	12.34
					·
SECONDARY FILTER PACK	none				
					·
ANNULAR SEALS	4 Bentonite Dellets	1-5016ail	70.4	68.8	1.6
	Bentonito nhios	1-50 lb bas	68.8	67.6	1.2
	Bentonitearast	8/2-50 lb bags	1.7.6	0.5	67.1
SURFACE SEAL		9-501bbacs	0.5	0.0	0,5
		0			
WELL PROTECTOR	6 steel w		2.5	-2.5	5.0
	locking cap			-	
	7				

Cut 0.19 ft of top of well after completion

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

TE ID 513546184	279601	_ STATION NAME AG LUS - 17
5' QUAD		COUNTY A STATE CO
WNER David Vette	<u> </u>	DRILLER
Indicate lengths of	Indicate casing and screen characteristics	
casing and screen		
4 1.88	Indicate thickness and types of well-	
2.07	completion materials	Notes
	6	Steel surface casing y locking my
		Miller Concrete that
		Bentonite Grout to surface
		TO THE IST THE IT THE
		SCHYO TFJ PVC:
		-Well Casing
		- 10-Slot screen
		- well point endeap
, , , ,		
7.60	[ [ [ ] ]	
	1///7/2	Took Port it alice
82.74	0000	Top of Bentonito Chips Top of Bentonito peoloto
	888 68.8	Top of Bentomite cellets
		,
	60000 · · ·	
	D885 70.4	6 1 1 1 1 1 1 1 1
		Sandpack-10-20 Silico Sand
	72.44	
		Top of Screened interval
	7 /3.5	Water level enrounteredduring drill
		9
9.77		· · · · · · · · · · · · · · · · · · ·
	1	0 11 25

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

Site ID 395540104353601	Borehole No. Agus	>-17
Date(s) Drilled	Pages	of <b>3</b>
Coordinates N39°55'40.26" WIOH 35'36.04"	Ground Surface Elevation	5227
Drilling Co. and Driller	Total Depth	82.74
Drilling method CME 85 Hollowstem Auger	Depth to Water	65.96(4/03)
Borehole Diameter	Static Water Depth	
Logged by JBECK SPASCUKE	•	
Comments		•

			Lithologic Description	
Depth (ft bls)	Sample type and recovery		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	cure	10487/4 10486/6	grayish Orange to dark yell orange sulty sand. Mcd Mod. Sorting, dry. Fines.	lowish rounded pwards -
10-12'	cuttings	ougrolb	dark yellowish orange da	mp suty
13.5-18.5	core		5.0/5.0' Recovered	
13.5-14.4	core	loyrich	dark yellowish orange site	Hy sand
18,5	6 core	544/,1 104R10/2	olive gray damp claystone CAICL'HE ZONEN . (weak HCL Weathered Fe-stained Color changes to pade yello at 17.10 - 18.5' BIS.	weaction) wish brown
22-24'	cutting.	SyriEly	moderate yellowish brown	
23.5-28	5 core		5.0/s.o' Recovered	-
ఎ3. <b>5-2</b> \$.	core.	5y 4/i	olive gray claystone, claim weathered. Zones DF For (Along Fractures). Fe-sizenes -> horiz banding to 20.3'BIS	staining
32-34	cutting	s 10yrs/1	t moderate yellowish brou claystone.	un moist
			34	

Site ID			Borehole No. Hacus-I+
Date(s) Drilled			Pages of 3
Coordinates			Ground Surface Elevation
Drilling Co. and D	Oriller _	1	Total Depth
Drilling method			Depth to Water
Borehole Diamete Logged by	er _		Static Water Depth
Comments			
	1		
		1	Lithologic Description
Depth (ft bis)	Sample type and recovery		Grain size %, sorting, roundness, mineral composition %, consolidation Other characteristics and (none, poor, well), and moisture content (dry, damp, moist, wet) drilling comments
37-38	cuttings	5 LOYRS/4	moderate yellowish brown claystone
45-47	autom	עופסעת	moderate yellowish brown algystone - mist
13 1 1	5	3 100-31	There is a grant of the state o
52-54	cutting	s loursly	mederate yellowish brown moist
	1	J 17.	claystone.
^~ ^~		/	
57-59	cultings	IDYKS/4	moderate yellowish brown moist
	J		a lay stone.
(0 111		* 13.1102C	
(0)-(04)	cutting	SICYRS	14 mod yell brownmoist claystone
63.5-68	Sance		3.0 / 3.0' Recovered.
00.5	Joene		5,0 / 5.0 Recovered.
63.S-65.	2 core.	IDURBU	moderate yellowish brown damp to
		109	most laminated & claustone.
			boorly consolidated. Thin interpedded
			sand & clay wil Fe-staining u
			horizontal trands
			you come parties.
105,2-6	o.S core	NY.	medium dark gray to olive gray
		5441	days laining bod alsing land
		3 1	abustane wil to staining Along
			chystone wite -staining blong bedding planes -
	1		scaring partes =
67-68	authmas	S IMPUIZ	2 dark yellowish brown moist
	Cocasi P.	1091-11-	Claystone.
70-72	cuttimes	104R4/2	dark yellowish brown damp to
	T T T	109, 110	JINST 01215tave
			- dois craystorie
73.5-7	8.5 core	>	5.0 5.0' Recovered.
73.5-7	8,5 000	10424/2	Fire-grained. well-sorted poorly consolidated
	1	1 1	Fine-grained, well sorted, poorly consolidated
	-	-	1-acm & thick beds wife-staining

Site ID		80	orehole No. AgW	S-17
Date(s) Drilled	_			i 3
Coordinates	,		round Surface Elevation	
Drilling Co. and Driller			otal Depth	
Drilling method			epth to Water	
Borehole Diameter			tatic Water Depth	
Logged by				
Comments .		:		
				•
		•		
		. Lithologic Description		
Sample type an Depth (ft bis) recovery	Color (GSA chart)	Grain size %, sorting, roundness, mineral of (none, poor, well), and moisture content (di	composition %, consolidation	Other characteristics and drilling comments
Depth (it bis)   Tecovery	Color (COA Chart)			
:		along bedding plane color & composit	s normogeni	rous in
		color & composit	7011	
78.S-83.S core	2	3.0 /3.0' Recol	sered_	
- 14 71 7				
78.5-8 core		Dark yellowish	brown wet	Sanastone
81.1	104R6/6	same composit	ton as in	73.S-
	<u> </u>	78,5 Interval	. gradation	nal
		color change f	From to Do	urkuellowish
		Arane ORATOR	toward 8	2 - 1
		due to increas		
		This zone.		J
		7110 2012		
81.1-81.5 COPE	112	Graush Black	. Clauston	PARITA
Off Off	ill	Black organi		> !!</td
	10,	consolidated	1 Inich	100,19
		CONSOTTAGE	i) moisi.	
		and the state of t	,	
				·
		_		
		-		
			-	
		1		
·				

# 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 249352 DES. BASIN 5 MD 9 DIV. 8 WD1

**APPLICANT** 

NW US GEOLOGICAL SURVEY DENVER FEDERAL CENTER

PO BOX 25046 MS 415 LAKEWOOD, CO 80215-

(303) 236-4882

PERMIT TO USE AN EXISTING WELL

APPROVED WELL LOCATION

ADAMS COUNTY

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:

#### 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.
- 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.
- Approved pursuant to CRS 37-90-105(1)(d). Use of this well is limited to monitoring water levels and/or water quality 3) sampling.
- This well must be equipped with a locking cap or seal to prevent well contamination or possible hazards as an open well. 4) The well must be kept capped and locked at all times except during sampling or measuring.
- 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.
- 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.
- The owner shall mark the well in a conspicuous place with well permit number(s) and name of aguifer as appropriate, and shall take necessary means and precautions to preserve these markings.
- This well must be constructed within 300 feet of the location specified on this permit.
- 0) 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.
- 1) 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.

56

# RECORD OF WELL COMPLETION Age 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 AND THE PARTY	11.404.D.IT	55.014		TOTAL
COMPLETION ELEMENT	COMPLETION MATERIALS	AMOUNT	FROM	TO	LENGTH
COM ESTIGIVE SERVICIVI		(by weight or	feet or	feet or	feet or
		votume)	meters)	meters)	meters)
PRIMARY FILTER PACK	10-20 Silica Sand	12-5011 60-0	4/ 2	33.5	12.7
	10-20 Silica Jaha	10-30 pag	110.0	00-0	10.1
					-
SECONDARY FILTER PACK	none				
•					
ANNULAR SEALS	1. Coated 14 Bentonitepellets	1-50   bpail	33.5	31.0	25
	· ·		*		2.5
	Bentonite Chips	1-501bbag	31.0	27.5	3.5
	1	4-5016bags		0.5	27.0
	, senentic grown	7 7 11			
SURFACE SEAL	Duicx Crete Concrete	1-50 16 bags	0.5	0.0	0.5
					:
			7	1,3	
	i se		22	00	
WELL PROTECTOR	6' steel rasing		2.5	-2.5	5.0
	-				

COMMENTS: Measurements are belowland surface (bls) well Completed by 5. Paschee

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

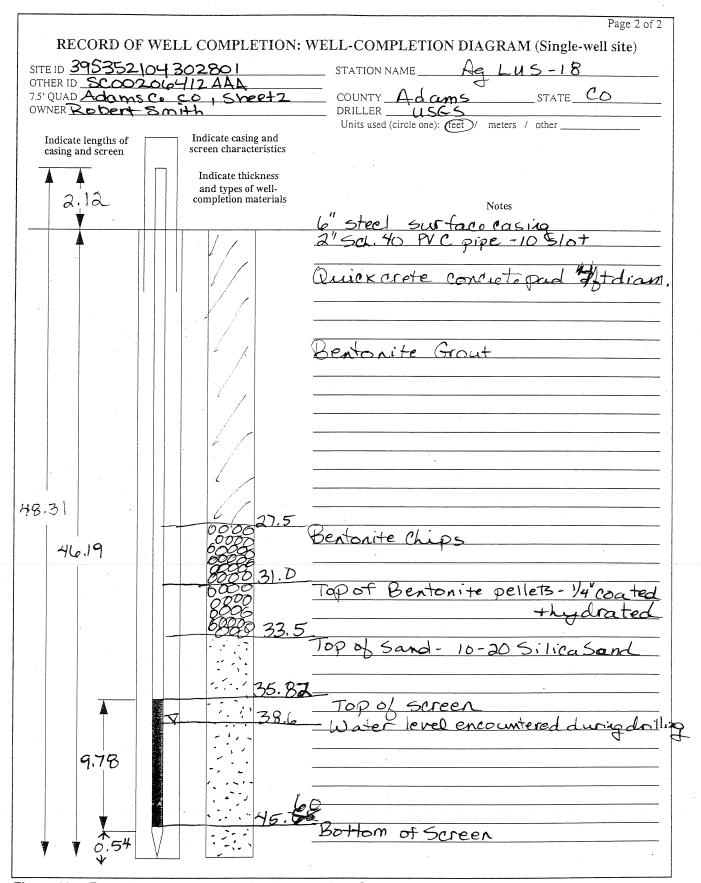


Figure 16. Example of a form to record well completion--Continued.

Site ID 395352 10432801	Borehole No. Aall	15-18
Date(s) Drilled	Pages	of 3
Coordinates N39.53'52.3", WIDY'30' 28.6"	Ground Surface Elevation	<del>5455</del> 5208
Drilling Co. and Driller USAS	Total Depth	46.19 bis
Drilling method CME 85 Hollow Stem Auger	Depth to Water	38.6 bls
Borehole Diameter 4"	Static Water Depth	38.53 bis (meas
Logged by S.PASChke, JBeck		YIZIAZ
		113103
Comments		

		4 .	Lithologic Description	
Depth (ft bls)	Sample type and recovery		Graín size %, sorting, roundness, mineral composition %, consolidation (none, poor, well), and moisture content (dry, damp, moist, wet)	Other characteristics and drilling comments
3.5-8.S	core	·	S.0' Recovery	
3.5-4.2.	core	104RS/4	Moderate yellowish brown san CARareous deposits (strong R	dy silt
			CARRIEDUS deposits (strong R	Kn w (HCL)
			sand wakes up -1090 total comp sand= fine grained	00367707
			V	
4.2-8.5	core	104R7/4	same composition as describ 3.5-4.2 interval, color c Noticed: grayish orange (4)	ed in
		to 1048412	13.5-9.2 unterval, color c	nange
	A CONTRACTOR OF THE PROPERTY O		dark yellowish brown (7.0	8.5-)
10-13'	euttings	104RS/4	und yellowish brown silty sand	•
	9	-	Fine to very coarse (vicm), Angus sub-Angular grains calcaterus on some larger grains. 9+2	uar, to
			sub-Angular grains calcarens	coating
			Feldspar n 15 %	80 /6
_				
B.5-18.5	1		5.0'Run, 3.5 Recovered	
13.5-17.0	HOTE	oyabb	dark yellowish orange uncon	solidated
			sand & SHALL GROUND, COATSE Sorted SAND From 13.5-14.0	well
	9 CCC CCC CCC CCC CCC CCC CCC CCC CCC C		pebble size grains from 14-17	· poorly
			uneral composition consisce	nsistent
		Territoria de la companio del companio de la companio della compan	Haraughout, at 2 60% A	eldspar
			30% Cithic Frag ~10%	
21-23	cuttings	104R4/2	darkyellowish Brown youst	sand
			Med- Very coarse grained (o.	s cm s
-	-		Extra & reldspar Rich, uncon	

Site ID				Borehole No.	Aquis	-18	
Date(s) Drilled		**************************************		Pages	e of .	_	
Coordinates				Ground Surface	Elevation		
Drilling Co. and E	riller		The state of the s	Total Depth			
Drilling method				Depth to Water	***************************************		
Borehole Diamet	er			Static Water De	pth		
Logged by							
Comments		***************************************					
		- All all was a second and a second a second and a second a second and					
			Lithologic Desc	ription			
	Sample type and		Grain size %, sorting, roundnes	es mineral composition %	consolidation	Other characteristics and	
Depth (ft bis)	recovery	Color (GSA chart)	(none; poor, well), and moisture	e content (dry, damp, mois	t, wet)	drilling comments	
26-27	cuttings	104R54/2	Darkyellow	sh Rown			
	Commis	30 11 2	same as descu		23 CIN	inas	
			CO.T. COOLSC			7.7	
28.5-33.	C1000		5.0' Bun , 4	A ! Ocasile Fe	al		
20.5 50.	ع بعد د		3.0 501 , 4	o Accover			
28.5-32			~:le., -11	-Cl-1-0-12-	ا مديده	- E-maha	
20.5-26	s cole	LOYRIOIZ	pakyellow	· · · · · · · · · · · · · · · · · · ·			
			Sandstone	28.5-31		ine grained	þ
	,	-		1 thinly			4
			consolidat	I - I - I - I - I - I - I - I - I - I -		b lithic frag.	
			30% Feldspa			/	_
			31.7-32.5 =	•		(NO HCI IX	n)
			SAME LINE	al compos	whon I	\$ 28.5-31.7	and and and
-	Service of the servic						
34-38'	cuttings	104R62	pale yellow	sh brown	dry		
	,		sume descr			32.5	
	17000		strong HCl R	xh - possi	ble cal	wherene	
	a real and a second	-	in Sandstone	2 bedrock			- Constant
38.5-43	Score		5.0 Run /s	- o' pecove	ru.		
		-		_	0		
38.5-43.5	COTO	MARIN	dark yellou	Jish Amna	e.to J	Uoderate.	
		IDUR CLU	yellowish k	oral m mi	+ 52 W	olstone.	
		3-31-1	poorly cons	Adh ted			
		-	homogeneous	S COIN DOS!	to my to	xting Thronk	Shor
			well sorted	1 mil m	Med	a control	1000
			Q+2 60%	Well to		10%	-
			C11-00-10	no/	nags	10 10	
			feldspar-3	0/0			
10 = 110	- 0		F . / S				1 .
43.5 - 48.	core.		5.0' Bun \$	0 4.0 Re	covers	·	1
<i>y</i>	5.0	10:1	Darkyellow sub-Angula sorted So			1	-
43.5-97	to core	104R6/6	Darkyellow	ush orange	: we	5 SAMOSTONIL	4
	-		sub-Angula	25 grains	mader	ately	-
	1		sorted. So	mëte-sta	ined 2	enes'	
							h
			sandstone Mineral con	& underly	ing cla	aystone	1
			Mineral con	uposition SA	me bes a	38:5-43.5	1
				3			

Site ID			Borenole No.	12-10
Date(s) Drilled			Pages	3 of 3
Coordinates			Ground Surface Elevation	
	Deille e			
Orilling Co. and I	וטוווע		Total Depth	
Orilling method			Depth to Water	
Borehole Diamet	ter		Static Water Depth	•
Logged by				
Comments			·	
Somments				
			•	
4	1077		Lithologic Description	
Depth (ft bls)	Sample type and recovery	Color (GSA chart)	Grain size %, sorting, roundness, mineral composition %, consolida (none, poor, well), and moisture content (dry, damp, moist, wet)	other characteristics and drilling comments
45.0-47		NS	yedium gray & weather	
			claystone-	
47.0-43	5 core	104R7/4		ne.
7			1	1 (7)
			well sorted the gran	ned
			well rounded - undersu	bely consolida
			lithic fragments 5-10%	
				Hercepa
			20-30% Qtz -60%	
				X-02
			·	
			•	Time and the state of the state
			,	
	CHALL SERVICE			
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				- Annual Control of the Control of t
				The state of the s
	9000		/	
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	-	.*		
				Freeze and
***************************************				The state of the s
	1	<u> </u>	I e	1.

# OFFICE OF THE STATE ENGINEER COLORADO DIVISION OF WATER RESOURCES 818 Centennial Bidg., 1313 Sherman St., Denver, Colorado 80203

(303) 866-3581

1354

	WELL PER	MIT NUMBER	24930	2	-	
APPLICANT	DIV. 8	WD1	DES. BASIN	5 ME	) 9	

APPROVED WELL LOCATION

ADAMS COUNTY

1/4 NE 1/4 Section 11 Township 3 S Range 64 W Sixth P.M.

DISTANCES FROM SECTION LINES

Ft. from North 2380 Ft. from East

Section Line Section Line

UTM COORDINATES

Northing:

Easting:

#### PERMIT TO USE AN EXISTING WELL

(303) 236-4882

PO BOX 25046 MS 415

LAKEWOOD, CO 80215-

US GEOLOGICAL SURVEY DENVER FEDERAL CENTER

#### CONDITIONS OF APPROVAL

- 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.
- 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.
- Approved pursuant to CRS 37-90-105(1)(d). Use of this well is limited to monitoring water levels and/or water quality 3) sampling.
- This well must be equipped with a locking cap or seal to prevent well contamination or possible hazards as an open well. 4) The well must be kept capped and locked at all times except during sampling or measuring.
- 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.
- Records of any water level measurements and water quality analyses shall be maintained by the well owner and 6) submitted to the Lost Creek Ground Water Management District and the Division of Water Resources upon request.
- 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.
- 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.
- 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.

#### RECORD OF WELL COMPLETION

Page 1 of 2

START WELL COMPLETION:

DATE 02 / 27/2003 TIME 1300

FINISH WELL COMPLETION:

DATE 62/28/2003 TIME 900

COMPLETION ELEMENT	COMPLETION MATERIALS	AMOUNT	FROM	TO	TOTAL LENGTH
		(by weight or volume)	feet (or meters)	feet (or meters)	feet (or meters)
PRIMARY FILTER PACK	Cospres 10-20 Silica Sand	6.5 x50 els	28.31	15.70	12.61
		•			
SECONDARY FILTER PACK	None				
······································					,
ANNULAR SEALS	1/41 conted benton bentonite ground	Le exsolb	15.70	13.50	,2,2
	bentonite grou	2.5 ×5016	13.50	4.0	9.50
SURFACE SEAL	Quickcrete	e bags	4.0	0	4.0
	A 3				
WELL PROTECTOR	6" steel surface		2.85	-2.15	
BBB I NOTBOTOR	CASIVA WI INTER	9 '	0.03		

- measurements are in Feet below Land Surface COMMENTS: - well completed by s. paschke.

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

RECORD OF WE	LL COMPLETION: W	Page 2 of 2 /ELL-COMPLETION DIAGRAM (Single-well site)
SITE ID 394838 10 OTHER ID 155 AQL	4310001	STATION NAME
7.5' QUAD		COUNTY Adams STATE CO
OWNER KENT Crism	lan	Units used (circle one) feet / meters / other
Indicate lengths of casing and screen	Indicate casing and screen characteristics	
2.15	Indicate thickness and types of well- completion materials	Notes
<b>A</b>		b" Steel Surface Casing w/ Locking one Purckcrete 4' dia concrete Well pad
	4.01	Top of Bentonile Grout
		2" SCH40 TES PVC:
		- well casing
		- 10-310t Screen
		- well point endcap
		5 .
	13.5	o Top of bentonite pellets
30.46	2228	
28,31	15.7	Top of Sandpack
	( ' ' ' )	
	1	
A	18-0	2 Topof Screened Interval
7	1	
9.76	"	
	1	
	27.7	2
	(1.00	BOTTOM OF SCREENED Interval
¥ ¥ <u>V</u>		·

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

Site ID 394838104310001	Borehole No. Agus-21
Date(s) Drilled 2/27/03	Pages of \
Coordinates N39°48'38.6 W164'31'00.7	Ground Surface Elevation
Drilling Co. and Driller uses	Total Depth
Drilling method CME 85 Hollow Stem Auger	Depth to Water
Borehole Diameter 9"	Static Water Depth
Logged by S.PASChke	
Comments	
**Comments	

			Lithologic Description	
Depth (ft bls)	Sample type and recovery	Color (GSA chart)	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	10yrs 4	moderate yellowish brown unconsolidated	sulf. dry
5-7'	cuttings	LOYES	mod. yellowish brown med Alluvialsand	-coArse
9-12'	cuttings	loursly	Moderate yellowish brown sand & Fine gravel unconso damp. coarser gravel unconso Moss BLS.	coarse lidated yer at
2-14'	Cutting	SYR3 4	Moderate brown coarse say Fine grave D. coarser than Interval, unconsolidated	9-12'
5-17'	cutting	> 104R4):	dark yellowish brown Me clayey sand & gravel, unc clay layer @ 215' Bis	onsolidated.
18.5-2	35 core		2.0/2.0' Recovered we	meas = 19.5
	g core	IOURS/4 IOURIE/2	moderate yellowish brown cla pale yellowish brown cla Fine at Sand wet, un te-stained	to BIS yey Sorisolidate
<i>1</i> 8.8-19.	2 core	104R574	Mad. yell. brown medium 84hd. unconsolidated. FE-Staining wet.	Abundant
19.2-20.	0 core	54RS/4	Light brough to PAIR yello	Fe-concretion
80.0-2	D.I Core	104RG/	to Dark yellowish orange Otz & Feldspar nich Fe Unconsolidated, wet.	med-san

25-27 cuttings 104A6/6

same as described in 20.0-20.1 core

# OFFICE OF THE STATE ENGINEER COLORADO DIVISION OF WATER RESOURCES 818 Centennial Bldg., 1313 Sherman St., Denver, Colorado 80203

(303) 866-3581

1354

WELL PER	MIT NUMBER	249347	-	-
DIV 8	WD1	DES. BASIN 5	MD 9	

APPLICANT

APPROVED WELL LOCATION ARAPAHOE COUNTY

1/4 SW SW 1/4 Section 2 Township 4 S Range 64 W Sixth P.M.

DISTANCES FROM SECTION LINES

3960 Ft. from North

Section Line

Ft. from West

Section Line

UTM COORDINATES

Northing:

Easting:

(303) 236-4882 PERMIT TO USE AN EXISTING WELL

US GEOLOGICAL SURVEY DENVER FEDERAL CENTER

PO BOX 25046 MS 415

LAKEWOOD, CO 80215-

#### CONDITIONS OF APPROVAL

- 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.
- 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.
- Approved pursuant to CRS 37-90-105(1)(d). Use of this well is limited to monitoring water levels and/or water quality 3) sampling.
- 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.
- Sampling is limited to the alluvium of Lost Creek or its tributaries. The depth of this well shall not exceed 100 feet or the 5) depth at which sandstone or shale is first encountered, whichever comes first.
- 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.
- 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.
- 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.
- 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.

66

AQUES 22

RECORD OF WELL COMPLETION

Page 1 of 2

START WELL COMPLETION:

DATE <u>02 / 19 / 03</u>

TIME 15:30

FINISH WELL COMPLETION:

DATE 02 / 00 / 03

TIME 10:30

	COMPLETION MATERIALS	AMOUNT	FROM	то	TOTAL LENGTH
COMPLETION ELEMENT		(by weight or volume)	fee (or meters)	feet (or meters)	feet (or meters)
PRIMARY FILTER PACK	COSPROSSILICA 10-20 SAND	10 (50 (b) books	100.35	85.65	14.7
				`	
SECONDARY FILTER PACK	none		-		
ANNULAR SEALS	1/4" coated benton He	(50lb) bucket	85.65	84.1	1.55
	Bentonite Grout	9(50lb)bags	84.1	1.5	826
			-		
SURFACE SEAL	QuickCrete Concrete	a (2006) pags	1.5	0	1.5
WELL PROTECTOR	10" Steel Surface		25	2.5	5.01
	casing			-	
		·			

COMMENTS-Measurements are in feet below Land Surface Lbls)
-Well Completed by I Beck

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

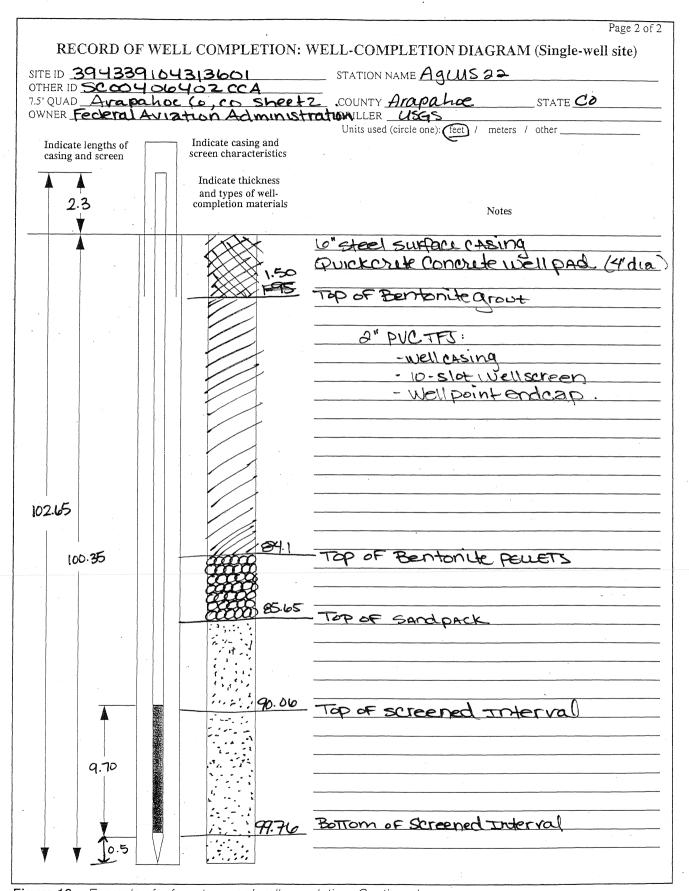


Figure 16. Example of a form to record well completion--Continued.

Comments

Site ID 394339104313601	Borehole No. Aquus - 22
Date(s) Drilled 2-19-03, 2-20-03	Pages1 of 3
Coordinates N39 43 39.53, W10431'36,81"	Ground Surface Elevation 5694 5635 FT
Drilling Co. and Driller USGS	Total Depth 100.35'bls
Drilling method <u>cme 85 Hallow Stem Auger</u>	Depth to Water 90.50 1615
Borehole Diameter 9"	Static Water Depth 53.00 (meas 4) 3 03
Logged by J. Beck	

			Lithologic Description	
Depth (ft bls)	Sample type and recovery	Color (GSA chart)	Grain size %, sorting, roundness, mineral composition %, consolidation (none, poor, well), and moisture content (dry, damp, moist, wet)	Other characteristics and drilling comments
0-51	cuttings	10YRS14	uderate yellowish brown dry	sandy
	7	`	sub- grades to sand at 12	bis 3
, 6'	. 11			
W-8'	cuttings	109KS14	Mod-yell brown dry med-fi otz ~90%, feldspar ~10% Subrounded to well rounded	ne gr sanol
			subrounded to well rounded	ghains
10-15'	cuttings	104RS/4	description same as 6-8' cur	tings
16-18'	cuttings	104Rb/2	pale yellowish brown dry silty sand ~60% total sample com	sand
			SANU 160% total sample con	pos utan
		•	sand 90-95 % ofz. , 5% fell sub-rounded grains. Fine-/	of spar
	•			<b>.</b>
20-25'	cuttings	104R6/2	Same description as 16-18 custo % sand increases	ngs
*		0,	% sand vicreases	0
28.5-33.5	core		5.0' Run, 4.5' Recovered.	
28.5-300	core	104R6/6	dark yellowish orange fine-med dry to damp. woderate round wood sorting loosely company for other sorting loosely company for other sorting.	SAND
			dry to damp. noderate roun	dung,
_			und sorting loosely comp	acted
	,		190% OFZ 5% recospor-	-
30.0-32.2	core	104RS/4	moderate yell-brown damp sa	ndy clay
<b>32 2 -</b> 33	.0 core	10 YR 5/4	moderate yell brown damp	sandy
	_		composition	
36-38	cuttings	IOYRS	Mod yell brown damp sande	clay
40-45	outtings	१०५१टी५	same description as 36-38' e	uttings
45-50	cutturgs	104RS/4	some desce. as 36-38 cutting	5

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

				4
Depth (ft bls)	Sample type and recovery	Color (GSA chart)	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	LOYRSY	moderate yellowish brown dan	
		-0 -1	clay	<b>4 9 3 3 4 4</b>
		_	cray	_
55-60	cuttings	104RS/4	same deser which as 51-58' cu	Hunas
		0.5-7	same description 251-53' cut damp to 2015+	
58.5-63S	<b>-</b>		and a second	
58565			5.0' Run, 50' Recovered	
			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
58.3-60.4	COCE	104R66	Mrk yell much boom to Dale us	Househ
		104R6/2	brown clay & sand interbe	2.5
		0	damp. sand interbeds fine of	. 41cm
			and a	thick
60.4-61.4	core	546/1	( white olling about Fine about nod	Sandstone
			damp. loosely compacted	
			CHI'C Fragments -30% Dt	-350/2
			Feldspar 35%. Well sor	ted.
	, e*		well rounded grains	1
			100100	
61.4-624	core	MYRGG	dark yell orange to use ye	01. hours
		104RS14		stone
			contact bet. Above sandsta	
·			TEXASSTAINED ZONE @ 1	
			composition summe AS About	
67.4-63	5 core	SYIOI	SAME description AS 60,4	-lol. 4 care
		101	sample.	
	~			
(5-70)	cuttings	104R5/4	und, yell brown sactures	1
		11.017	weathered claystone	4.
12-23	cuttings	544/1	plue gray damp alousta	200
•			olive gray damp claysto	
75.76	cutting	N4	med dark gray dampela	1
		<b>Y</b>	, -	; (F
90-AT	cuttings	N4	same description as 75-76	Authins
	137		- 10 10 10 10 10 10 10 10 10 10 10 10 10	

Site ID			Borehole No. Aq LUS	22-
Date(s) Drilled		,	Pages 3 of	_
Coordinates			Ground Surface Elevation	
Drilling Co. and D	Driller		Total Depth	·····
Drilling method		William A. Britan and Company of the	Depth to Water	
Borehole Diamet	er		Static Water Depth	•
Logged by			<u></u>	
33				
Comments				
	I		Lithologic Description	
			Entrologic Description	•
	Sample type and		Grain size %, sorting, roundness, mineral composition %, consolidation	Other characteristics and
Depth (ft bls)	recovery	Color (GSA chart)	(none, poor, well), and moisture content (dry, damp, moist, wet)	drilling comments
85-90'	cuttings	N4	same description as 15-76'	cuttings
	•			<b>)</b>
73.S-98.	score		5.0' Bun 4.0' Recovered	
935-94	.8 core	NO	medium light arou wist to v	iest
	· o co. e		SANdstone . Fine grained.	well-sorted
				ic frags
				L TVags
			40% Ot2 35% Feldspar	43500
and orl	core	- 10		
94.8-94.	7 <del>No</del>	Nb	dry, med light gray, ve	ry compact
			sutstone, plant fossus pres	eht
				. '
94.9-97	o core	106	same sandstone as descrip	bed in
	·		93.5-94.8 interval. de	mp
			, , , , , , , , , , , , , , , , , , , ,	•
221-97	core	112	dark gray wet shale, col	ofacm1
1120	5 001 -	NJ.	fragmented plant fossil	6
			raginera pare 10350	
	٤			
-				
		-		
			,	
			·	
		•	-	

# OFFICE OF THE STATE ENGINEER COLORADO DIVISION OF WATER RESOURCES 818 Centennial Bldg., 1313 Sherman St., Denver, Colorado 80203

(303) 866-3581

WELL PERMIT NUMBER 249349 MD 9 WD1 DES. BASIN 5 DIV. 8

**APPLICANT** 

APPROVED WELL LOCATION

ADAMS COUNTY

1/4 NW Section 32 1/4 Township 2 S Range 63 W Sixth P.M.

DISTANCES FROM SECTION LINES

2640 Ft. from South

Section Line

1354

2640 Ft. from East

Section Line

UTM COORDINATES

Northing:

Easting:

(303) 236-4882

#### PERMIT TO USE AN EXISTING WELL

PO BOX 25046 MS 415

LAKEWOOD, CO 80215-

US GEOLOGICAL SURVEY DENVER FEDERAL CENTER

#### CONDITIONS OF APPROVAL

- 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.
- 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.
- Approved pursuant to CRS 37-90-105(1)(d). Use of this well is limited to monitoring water levels and/or water quality 3) sampling.
- This well must be equipped with a locking cap or seal to prevent well contamination or possible hazards as an open well. 4) The well must be kept capped and locked at all times except during sampling or measuring.
- Sampling is limited to the alluvium of Lost Creek or its tributaries. The depth of this well shall not exceed 100 feet or the 5) depth at which sandstone or shale is first encountered, whichever comes first.
- 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.
- 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.
- 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.
- 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.

	TOTAL LENGTH (CET) or meters)
COMPLETION ELEMENT  COMPLETION MATERIALS  AMOUNT FROM TO (by reight or volume)  PRIMARY FILTER PACK  COMPLETION MATERIALS  AMOUNT FROM TO (by reight or meters)  Meters  FOR TO	LENGTH feet (or meters)
COMPLETION ELEMENT  (by weight or volume)  PRIMARY FILTER PACK  10-20 CO SUNCA SOUND  SECONDARY FILTER PACK  SECONDARY FILTER PACK  ON THE PACK	LENGTH feet (or meters)
PRIMARY FILTER PACK 10-20 CO SUNCA SOUND 16-50 LIGHT 53.74 70.7  SECONDARY FILTER PACK NOVE	
ANNULAR SEALS 14" COATED BENTONILE 1-5016 bucket 70.7 68.7	
	2.0
	•
SURFACE SEAL BENTONIE QUOLL 12-50 lb lags 18.7 2.5	ole.2
QuickCrose Concret 10-80 Llothog 2.5 0.0	2.5
WELL PROTECTOR 6" Steel SURface 2.5 -2.5	5,0
casing will bedring	
MMENTS-MESSUREMENTS ARE in FREX below Land Surfo -Well completed by S. PASCHEL	

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

		VELL-COMPLETION DIAGRAM (Single-well site)
ITE ID 394956104	1274101	STATION NAME AGUIS 26
7 1 1 1 D 1 C 1 D		
.5' QUAD_ DWNER_DUANE BE	rred	COUNTY STATE STATE
		COUNTY STATE COUNTY DRILLER USG Units used (circle one):
Indicate lengths of casing and screen	Indicate casing and screen characteristics	
A	Indicate thickness	
2.30	and types of well- completion materials	
	6	" steel surface casing w/ Locking cap Purckosule 7" die. concrete well paol
	المحادة المحاد	puckerse of die. concrete well pad
		Toporcionite grows
		2" sch 40 PVC TFS WELL CASING
	of the same of the	2" sch 40 PUCTFS 10 slot seten
	-	IFI well point Endeap
	Service .	
		BENTONITY GrOWT TO SURFACE (25)
Ble-off		
De la		
83.74		TOP OF BENTONITE, PELLETS
	700	The state of the s
	70.7	TOPOF 10-20 SAND PACK
		TO OF IC THE FACE
-	5 0 ° 0	
A 325	73.40	TOP OF SCIENCED INTERVAL
	1 9	WATER LEYEL ENCOUNTERED DURING DRILLII
	1	· · · · · · · · · · · · · · · · · · ·
9.76	1.9 4 68	· 
	(17. 5 9 2 2	
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
	1:11:183.16	SOTION OF SCREENED INTERVAL

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

Site ID 394956604274101	Borehole No. AqUS-Z6
Date(s) Drilled 1119103 , 1125103	Pages \ or 3
Coordinates N29.49'56.8" WIOH. 27'41.8	Ground Suriace Elevation 5626 5315
Drilling Co. and Driller USGS	Total Depth 83.74' RIS
Drilling method OME 85 Hallow Stem Avapr	Depth to Water 13. Lolo ( Meas 4) 03
Borehole Diameter	Static Water Depth
Logged by JBEK, SPASCHKE	
Comments	

			Lithologic Description	
Depth (ft bis)	Sample type and recovery	Color (GSA chart)	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	104ES/4	mod yellowish brown day same	
g-8	cuttings	, loyrs/4	moderate yellowish brown of sandy sixt, unconsolidated	anip
11-12	cuthras	10425/4	mod yellowish brown hoist	
135-181	1 COTE		2.5 /S.O' RECOVERED	
13.5-16.0	core	IDYRIOLIO	dark yellowish Drange Mois Sand. Fine-yell sand. Well sorted	t clayey unconsolido
18.5-23	s core		5.0/5.0' RECOVERED	
18.S-ac	1 Core	104216/16	Dark Yellowish Orange Moist Fine - Lied growned well so Slightly clayey, unconso	orted
30.1-23.9 .a.	0,5	10 40-414	Grayish Orange Moist con Egidnules poorlysorted	rsesand
23.5 <del>-3</del>	S COTE		3.0/3.0' RECOVERED	
23.S-AL	.S core	104R7	t granules up to 1cm die Sorted Angular grains	se sand L. poorly Fines
31-32	cutting	DURTH	Grayish Orange Moist Clay	Je u sand
	7.5 cos	1	2.5/5.0' Recovered.	
				-

e ID _				Borehole No. $Ae$	9LUS-2	40
te(s) Drilled _	٠.			Pages	'201A	
ordinates _				Ground Surface Elev	vation	
ordinates ling Co. and Dr	riller			Total Depth		
	-			Depth to Water		
lling method rehole Diameter	·r	:		Depth to Water Static Water Depth		-
ehole Diameter				Static Water Depth		:
gged by _						
mments _						
_						
			Lithologic De	scription		
1	Sample type and recovery			ness, mineral composition %, conture content (drv, damp, moist, w		ner characteristics and drilling comments
Depth (ft bls) 년 2 호 _ 고수 년					÷ /	
3.5-35.1	D core	104R616	1117	granules;	e moist unconsc	olidated.
5.0-36.	D CORE	IDYRIOLO	Dark Uplin	wish k orange	e mois	5+-
	***	1 - 2001 200	COATED SIN	nd & granules	poorti,	isorted
			unconsolia		- 7	
~	6		2	0		
18.5-4B	s core		2.0/5.0	Recovered_		
38.5- Un	O.S CORE	10426/6	dark 11011	owish prang	e mois	+
75		1. 14/10	COPPED	sand and	rules a	t pebbles
		:	Drorling	opten Pinan	rsolial.	ated.
			1700173	1 200		
44-4	111 44-	as louriou	· Noul	laux1 mm	re mois	-
170	- Cullin	to making	some yel	and hary	- 410	
			LAN SES		anno	• .
57-00	11.11	20 /2000 /	dalala de	1/200 LON	11/10/1.	4
57-53	cutting	as loyabile	quark yei	LOWING DOOL	1 1 / C	6 Lohlos
		•	COArse	sand, grance	red / P	- Wi = 1
	a . 1)			1/2 21	40	
56-57	cuttina	15 LOURIOT	o dark we	llowish onan	ige dre	y convec
-	1		sand c	llowish orangeranules, &	Pebble	25 Aporty
	,		Sorted			
01-63	nething	SLOYRIELO	C Alano	lescription	as un	terial
W 160	- mult	1220	IN CI	ET'CULTING		The state of
710	.1	100000				ins A
07-108	cutting	s loyeld	p quric ye	llowish ora	nege of	N 30 - 1
	-	-	COAVSE	sand & pek	uptes,	unconsolid
				. , ,		1
74-760	cutting	S LOUR LO	le dark le	Mowsh ora	mae of	Try
		Orang	COAVSE	SAND & Dek	SOLOR	<b>U</b>
73.S	- KC			The state of the s		
		2	00/-	010	1	
70.0-8	33.5 Cor	15	a.U / 5	.0 'Recovered	2	
1-						
18.8-X	0,5 core	<u> </u>				COATSO
73.S-78	5.5	DYRIGIO	dorkilolla	w shorange	. Met.	sand
		- Ruje	\$ Deboles			
1 100		1	- A + COOL	- WILLIAM	- NULL	
1				9 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ML OV	
		5 warble	Lindonsolic	9 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1	oft as	5% ortho