

**STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF OIL AND GAS**

**AFFIDAVIT OF PLUGGING AND FILLING WELL**

AFFIDAVIT SHOULD BE IN TRIPLICATE, one copy mailed to the Department, one copy to be retained by the Well Operator and the third copy (and extra copies if required) should be mailed to each coal operator at their respective addresses.

Farm name: Ayersman, J. Operator Well No.: 7500

LOCATION: Elevation: 1692.1 ft Quadrangle: Terra Alta, WV  
District: Union County: Preston  
Latitude: 13302 Feet South of 39 Deg. 25 Min. 00 Sec.  
Longitude: 5880 Feet West of 79 Deg. 35 Min. 00 Sec.

Well Type: OIL \_\_\_\_\_ GAS X (storage)

Company Columbia Gas Transmission, LLC Coal Operator not operated  
1700 MacCorkle Ave SE or Owner \_\_\_\_\_  
Charleston, WV 25325-1273 \_\_\_\_\_

Agent James Amos Coal Operator \_\_\_\_\_ RECEIVED  
or Owner \_\_\_\_\_ Office of Oil and Gas

Permit Issued Date 4/23/2018

DEC 10 2018

**AFFIDAVIT**

WV Department of  
Environmental Protection

STATE OF WEST VIRGINIA,  
County of Preston ss:

James Amos and Steven Simmons being first duly sworn according to law depose and say that they are experienced in the work of plugging and filling oil and gas wells and were employed by the above named well operator, and participated in the work of plugging and filling the above well say that said work was commenced on the 10 day of May, 2018, and the well was plugged and filled in the following manner:

TYPE	FROM	TO	PIPE REMOVED	LEFT
<b>cement</b>	<b>surface</b>	<b>265'</b>	4-1/2", 7", 8-5/8"	10-3/4"
cement	265'	308'	4-1/2", 7", 8-5/8"	none
cement	308'	312'	4-1/2", 7"	8-5/8"
6% gel	312'	340'	4-1/2", 7"	8-5/8"
cement	340'	1267'	4-1/2", 7"	8-5/8"
6% gel	1267'	1300'	4-1/2", 7"	8-5/8"
cement	1300'	1490'	4-1/2", 7"	8-5/8"

Description of monument: 7" steel casing 30" above ground level and that the work of plugging and filling said well was completed on the 14 day of June, 2018.

And further deponents saith not. [Signature]  
[Signature]

- 1. Additional plugging data on second page.
- 2. Refer to post P&A wellbore diagram.
- 3. Permanent above grade monument made out of 7" OD steel pipe with API number affixed

Sworn and subscribe before me this 19 day of November, 2018.

My commission expires: June 13, 2023

[Signature]  
Notary Public



Affidavit reviewed by the Office of Oil and Gas: [Signature]

Title: Inspector 11/27/2018



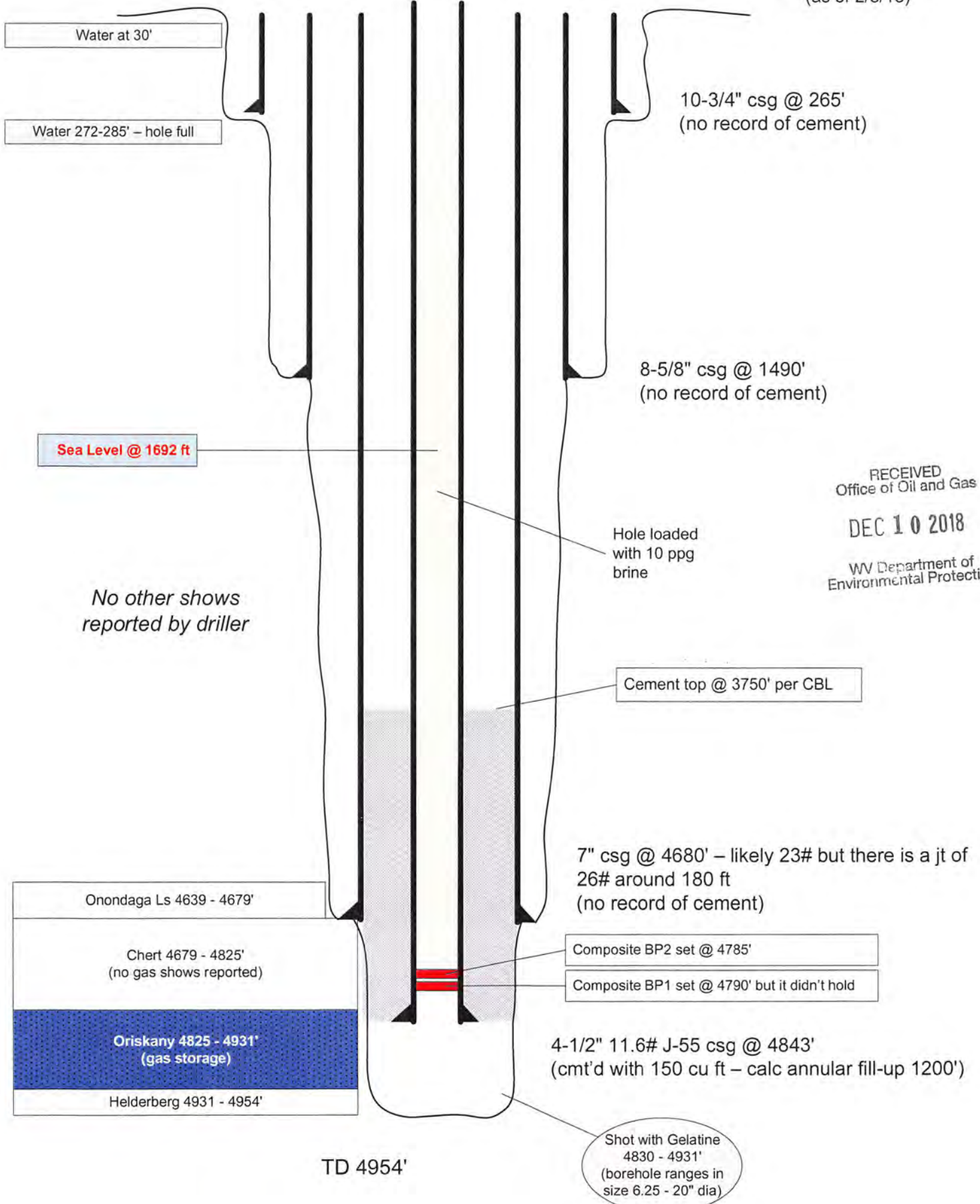
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# TERRA ALTA SOUTH 7500

12/14/2018

## Prior to P&A

(as of 2/8/18)



Water at 30'

Water 272-285' - hole full

10-3/4" csg @ 265'  
(no record of cement)

8-5/8" csg @ 1490'  
(no record of cement)

Sea Level @ 1692 ft

No other shows reported by driller

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Hole loaded with 10 ppg brine

Cement top @ 3750' per CBL

Onondaga Ls 4639 - 4679'
Chert 4679 - 4825' (no gas shows reported)
Oriskany 4825 - 4931' (gas storage)
Helderberg 4931 - 4954'

7" csg @ 4680' - likely 23# but there is a jt of 26# around 180 ft  
(no record of cement)

Composite BP2 set @ 4785'

Composite BP1 set @ 4790' but it didn't hold

4-1/2" 11.6# J-55 csg @ 4843'  
(cmt'd with 150 cu ft - calc annular fill-up 1200')

TD 4954'

Shot with Gelatine  
4830 - 4931'  
(borehole ranges in size 6.25 - 20" dia)

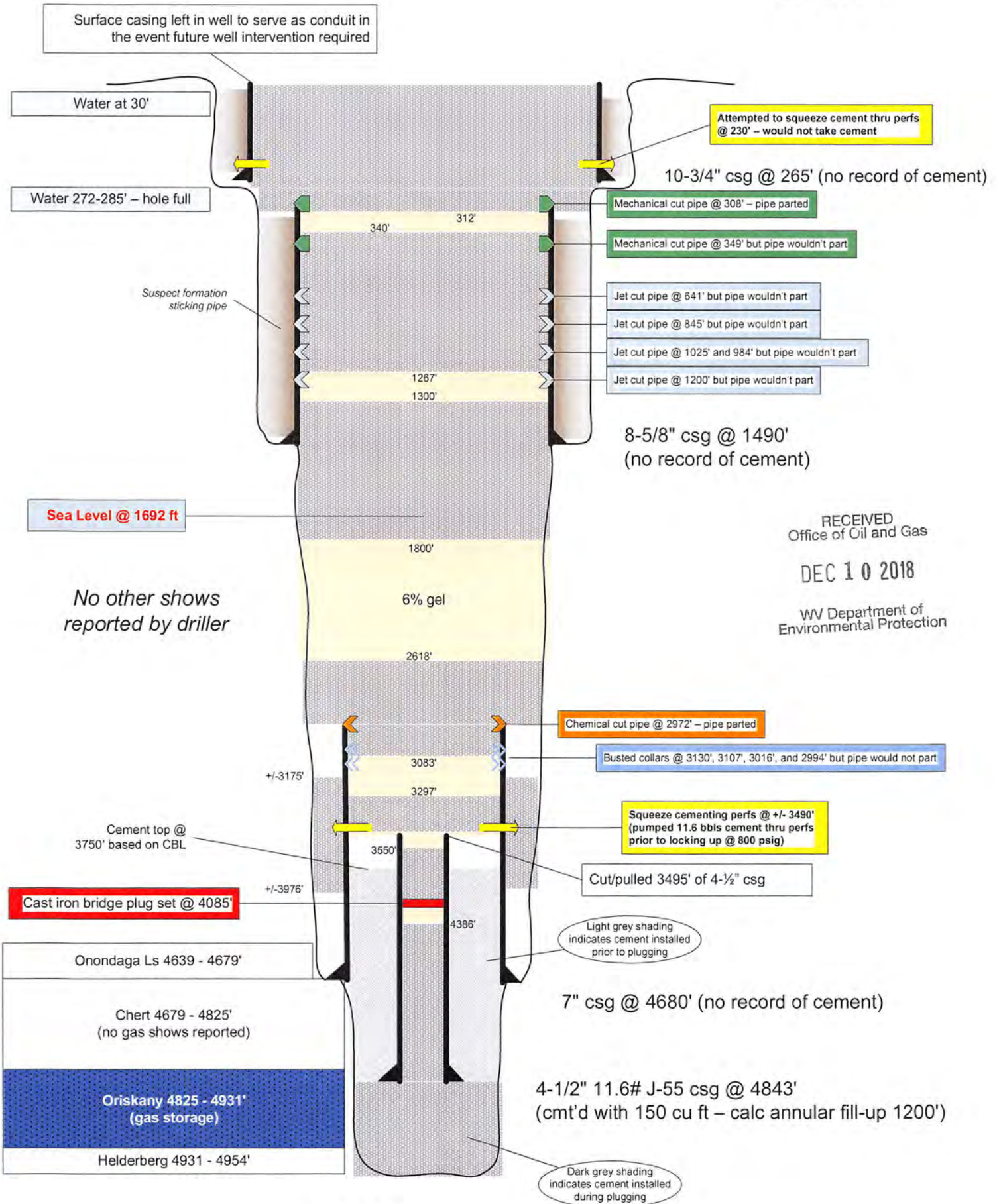
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# TERRA ALTA SOUTH 7500

12/14/2018

## Post P&A

(as of 6/15/18)



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Date	Hours	Gas Lost (mcf)	Rig Contractor
5/2/2018	8	Met with CSI supervisor to see where to put gravel down for rig.	CSI
5/3/2018	10	Stricklin moved equipment to location.	Stricklin Dozer & Trucking
5/4/2018	10	Fairfax dumped stone on location, Stricklin hauled up equipment. CSI was moving rig but it broke down.	Stricklin Dozer & Trucking
5/7/2018	12	Held tailgate safety meeting. Discussed installing silt fence. Key energy MI water tanks and Stricklin MI flowback tank. CSI rig still broke down.	Stricklin Dozer & Trucking
5/8/2018	12	Held tailgate safety meeting. Installed 400' of silt sock around location. CSI MI mud pump and swivel, tank and pipe trailer. Rig broke down.	Stricklin Dozer & Trucking
5/9/2018	16	Went over JHA and held tailgate safety meeting. Discussed having spotter while trucks backing on location. Key energy hauled in 500bbl FW. MIRU CSI logging truck, went over Jsa, had trouble with logging truck, fixed problem RDMO CSI logging truck. Rig broke down again on move.	CSI
5/10/2018	12	Went over JHA and tailgate safety meeting. Discussed rigging up wellhead stack. Installed 4 1/16" 3K to 7 1/16" 3K spool and 7 1/16" 5K double ram BOP with 2 3/8" pipe and blind, installed 7 1/16" 5K annular on top. MIRU CSI double derrick rig.	CSI
5/11/2018	10	Went over JHA and tailgate safety meeting. Discussed hooking up BOP and annular. Function tested stack and pressure tested Low/High- 500/2500 psig. Spotted tubing trailer, Swivel and mud pump and tank. Installed flowline to tank. Made sure all equipment would start.	CSI
5/14/2018	14	Went over JHA and tailgate safety meeting. Discussed picking up tubing off of trailer. TIH 3 7/8" tooth bit with double floats. Ran 150 JTS of 2 3/8" EUE tubing down to 4650'. Shut down due to severe weather. Shut pipe ram and installed TIW valve and shut down.	CSI
5/15/2018	12	Went over JHA and held tailgate safety meeting. Discussed drilling out plugs. Finished tripping down to 1st plug. Loaded hole with 14# drilling mud. Went to load circulating tank, discovered there was a hole in tank. Shut down and had new tank delivered to location. Spotted new tank and filled tank up with mud. Hooked up mud pump and swivel. Locked well in for night.	CSI
5/16/2018	13	Went over JHA and tailgate safety meeting. Went over drilling thru bridge plugs. Started pump and circulating hole. Pressure end on pump started leaking. Shut pump down and bled off pressure. Removed nipple and found nipple was rusted out, Replaced with heavy nipple. CSI had welder come out and weld nipple on. Started circulating hole and pump started leaking on pressure end again. Removed nipple and was rusted out also. Decided to wait on CSI pump truck. MI CSI pump truck and started pumping, drilled out 1st plug. Decided to shut down due to late in evening to drill out 2nd plug. Locked well in for night.	CSI
5/17/2018	14	Went over JHA and safety meeting. Discussed drilling out last plug and tripping to bottom. Drilled out 2nd plug and tripped to bottom at 4950'. TOOH and took bit and sub off TIH opened ended. On bottom pumped 2bbl FW, 15.5 Bbl class A cement 15.6. (72 sac). Displaced 16.1 bbl, pulled 35 jts and reversed 40bbl FW. And pulled 4 jts. Shut in and put 500 psig on well and shut in.	CSI
5/18/2018	12	Went over JHA and tailgate safety meeting. Discussed slips trips and falls. SICP: 25 psig. RIH and tagged up on cement at 4386'. POOH. MIRU CSI logging truck and RIH and set bridge plug at 4085'. POOH. TIH 2 3/8" tubing to cement in the morning.	CSI
5/19/2018	12	Went over JFA and tailgate safety meeting. Discussed cement job. Finished TIH to 4062' and pumped 2 bbl FW, 4.8 bbl of class A 15.6 cement, Disp. 14.8 bbl FW, pulled 12 jts to 3750' and reversed 35 bbl FW and POOH. ND BOP and removed 4" valve and 9" flange. Installed 9x7 1/16" spool with Annular on top.	CSI
5/20/2018	12	Went over JHA and tailgate safety meeting. Discussed NU new stack. Removed 4" valve and 9" flange. Pulled 4 1/2" casing out of slips pulling 60,000. Installed 9"x 7 1/16" spool and 7 1/16" annular. RU CSI logging truck and RIH and tagged cement at 3780'. Found 4 1/2" free at 3545'. POOH. RIH charges and shot at 3524'. Worked casing up and down pulling 80,000. RIH and shot again at 3495' and pipe was free. RD CSI logging truck and pulled 35 jts and shut in well.	CSI
5/21/2018	15	Went over JHA and tailgate safety meeting. Discussed laying down casing on trailer. Pull 74 more jt of 4 1/2" casing for total of 10 jts. RIH 120 jts of 2 3/8" tubing down to 3780'. RU CSI pump truck and pumped. 10 bbl FW, 4.7 bbl of class A 15.6 cement, (23.7 sac) DISP. 14.2 bbl FW. Pulled 12 jts of tubing and reversed 30 bbl FW. Pulled 6 jts and shut well in.	CSI
5/22/2018	12	Went over JHA and tailgate safety meeting. TIH to tag cement plug, set down at 3672'. RU cement pump and pump 2BBL FW to break circulation, 4.7 BBL Class A 15.6 cement, DISP. 13.7 BBL, pulled 11 jts of tubing, reversed 30 FW and pulled 6 joints. Waited 8 hrs and TIH and tagged cement at 3550'. Pulled 6 jts and shut well in.	CSI

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Date	Hours	Gas Lost (mcf)	Rig Contractor
5/23/2018	11	Went over JHA and tailgate safety meeting. Discussed muddy location. Tripped out of hole rigged up CSI logging truck, RIH and shot 6 shots at 3490'. POOH, hooked up csi pump truck and circulated 50 fw water. RIH tubing 3460', Pumped 19.2 BBIL class A cement, Disp. 10.9 bbl FW, pulled 28 jts and shut annular, pumped 10 bbl FW, well pressured up to 800 psig, opened back side and tried pumping pressure was staying at 800 psig, shut everything in and left pressure on well.	CSI
5/24/2018	10	Went over JHA and held tailgate safety meeting. RIH tubing and tagged cement top at 3297'. POOH and get ready to free point 7" casing.	CSI
5/29/2018	16	Went over JHA and tailgate, Discussed ND wellhead stack. ND wellhead stack, tried pulling 7" casing and center spear wouldn't bite. Welded on pulling sub and went in an ran free point, found pipe free at 3175'. Tried shooting pipe at 3130', pipe was still stuck. Tried to shoot agin at 3107" gun didn't go. Had to shut down due to darkness.	CSI
5/30/2018	13	Went over JHA and tailgate safety meeting. Discussed staying away from logging guns when loaded. CSI RIH and shot collar again at 3107' again, tried working casing, no movement. Shot again at 3016',2994', still no movement, Went and got chemical cutter and cut 7" at 2972', pipe was free. RDMO CSI logging truck. Went to set pipe in slips, slips wouldn't hold. Got another set still wouldn't hold. Spotted trailer and rigged up power tongs. Different slips and bowl to be delivered in AM.	CSI
5/31/2018	15	Went over JHA and tailgate safety meeting. Discussed laying down casing on trailer. Pulled 1 jt and hooked up CSI pump truck and pumped 116 bbl FW. Started pulling casing and casing was dragging and getting stuck. Hooked pump truck back up and pumped 100 bbl 6% gel and 26 bbl fw behind. Kept pulling pipe, started pulling better, but was having trouble breaking apart, finished up evening pulling 95 jts of 7" casing. Shut down due to getting dark.	CSI
6/1/2018	10	Went over JHA and tailgate safety meeting. Discussed laying casing down on trailer. Finished pulling 7" for a total of 123 jts. RIH with tubing to 3083'. RU CSI pump truck and pumped 2 bbl FW, 24.4 BBL class A 15.6 cement, disp 10.3 bbl and pulled 20 stands.	CSI
6/4/2018	12	Went over JHA and tailgate safety meeting. RIH tubing and set down at 2618'. Pulled 44 stands and MIRU CSI logging truck. Ran free point on 8 5/8" casing. Found free pipe at 1200'. RIH cutter and cut pipe at 1200'. Started working pipe pulling 40K to 120K, pipe was still stuck. Shut down to get another cutter.	CSI
6/5/2018	12	Went over JHA and tailgate safety meeting. RIH hole jet cutter and shot at 1,025' pipe wouldn't move, shot again at 984' ,845' ,641' , pipe would not move, kept working it pulling 60K to 130K with no luck freeing up.	CSI
6/6/2018	12	Went over JHA and tailgate safety meeting. RIH 57 jts of 2 3/8" tubing to 1800'. RU pump truck and pumped 35.6 bbl (16.3 sks ) of 15.6 ppg Class a cement. Disp 5.0 bbl FW POOH RDMO pump truck. RU CSI logging truck and shot 6 shots at 1100' , 500' ,400', fluid level never dropped after shots. Tagged cement top @ 1300'.	CSI
6/7/2018	10	Went over tailgate safety meeting. Unloaded 3 1/2" drill pipe and mechanical cutter. Went to make up cutter and found out had wrong change over. Spotted swivel. Shut down.	CSI
6/8/2018	14	Held tailgate safety meeting and discussed about running cutter in hole. TIH 8" mechanical cutter to 349' , ran cutter til pipe acted like casing was cut. POOH. Tried pulling casing wasn't cur. RIH cutter again and cut pipe at 308' POOH and pulled on casing and pulled 14 jts of 8 5/8" casing for a total of 308.6' of pipe. Tried pulling on 10" casing with no luck. Locked well in for week end and shut down.	CSI
6/11/2018	12	Went over JHA and tailgate safety meeting. Discussed jobs to be done today. RIH 2 3/8" tubing to 1267' and pumped 58.9 bbl (280 sks ) of class A 15.6 cement. Disp 1.1 bbl fw. POOH. Loaded up all of KLX rental equipment to return. MI sweeper and cleaned road.	CSI
6/12/2018	11	Held tailgate safety meeting. RU CSI logging truck, check TD, found TD at 340'. RIH 6 shot and perfed 10" casing at 230'. RDMO logging truck. RIH 2 3/8" tubing to 312'. RU pump truck and pumped 35.7 bbl ( 169 sks ) of class A 15.6 cement, tried to squeeze cement pumped 1bbl and started pressuring up. Finished job and POOH. Hooked up truck and left 300 psig on well.	CSI
6/13/2018	12	Held tailgate safety meeting. RIH and tagged cement at 60', RU cement truck and pumped 32 sks of class A 15.6 cement. POOH add added cement to cella. RDMO cement trucks. RD derrick rig and MO rig equipment. MO flowback tank and pipe trailer. Installed 7" monument.	CSI
6/14/2018	11	Held tailgate safety meeting. CSI MO rig. Key energy MO 500 bbl and 250bbl FW tank. Stricklin cleaned out wash up tank and haul it and power swivel back to CSI's yard. Stricklin top off 7" monument with 1 bag of cement and welded API number on and installed cap on top.	CSI

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Date	Hours	Gas Lost (mcf)	Rig Contractor
6/15/2018	8	Key energy hauling out last tank, Stricklin working on reclamation and hauling out fork lift. Well is back in service.	Stricklin Dozer & Trucking
6/18/2018		Stricklin working on reclamation.	Stricklin Dozer & Trucking
6/19/2018		Stricklin worked on reclamation.	Stricklin Dozer & Trucking
6/20/2018		Stricklin finished up reclamation, hauling equipment out in the AM.	Stricklin Dozer & Trucking
6/21/2018		Stricklin hauling out equipment.	Stricklin Dozer & Trucking

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12/14/2018



1700 MacCorkle Ave SE  
P.O. Box 1273  
Charleston, WV 25325

December 4, 2018

WV DEP – Office of Oil and Gas  
601 57<sup>th</sup> Street SE  
Charleston, WV 25304

Enclosed for submittal are forms WR-38 (Affidavit of Plugging and Filling Well) and WR-34 (Discharge Monitoring Report) for Columbia's Terra Alta South storage well 7500 (API 077-00056).

If questions arise, feel free to contact me.

Regards,

Jim Amos  
Principle Engineer  
Columbia Gas Transmission, LLC  
[james\\_amos@transcanada.com](mailto:james_amos@transcanada.com)  
off: 304-373-2412  
cell: 304-483-0073

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