

**BLACK HILLS PLATEAU PRODUCTION LLC**

**Winter Flats 1-13-100 NENE 13 9S 100W**

**API # 05-077-08503**

**Mesa County, Colorado**

**Spud 7/16/82 TD 7/26/82 Completion 8/25/82**

**Elev: ' GL: 6433' RKB: ' PBSD: 6554' TD: 6630'**

**Surface casing:** 9-5/8" (13-3/4" hole) 36# K55 ST&C set @ 308'  
325sx Reg w/ 2% CaCl & 1/4#/sk Flocele

**TOC @ srf**

**Production casing:** 4-1/2" (8-3/4" hole) 10.5# K55 ST&C @ 6630' (FC @ 6597', DV @ 2172' per CBL)

1<sup>st</sup> stg: 80sx Lite & 200sx Reg w/ 2% CaCl & 1/4#/sk  
Flocele

2<sup>nd</sup> stg: 80sx Lite & 200sx Reg w/ 2% CaCl & 1/4#/sk  
Flocele - good bond from TD to 6150', no cmt  
above 6150', no cmt above DV @ 2172', no cmt  
from 2300-1800'

**TOC @6035' – no TOC above DV Tool**

**Production Liner:** 10/30/08 Latching seal assembly (1.938" ID) 1.69' total length w/1.21' inside pkr, 2 3/8" x 2 7/8" x-o (1.995" OD & .51' long), 2 7/8" x 4' perf sub and 2 7/8" 6.5# J-55 eue tbg w/WS pkr at 6196' (191 jts)  
100 sx 11.0 ppg & 30 sx 15.8 ppg, over displace by 1-2 bw  
TOC – est 500-700' from surface, load w/1 bw, pressure test good to 500 psi down liner, 100 psi down annulus

**Perforations:**

**DKTA (9/20/10)** 6382-6392', 6393-6405', 6398-6407' 1 11/16" exp guns, 4 spf, 8.4 gms  
9/30/10 Frac. Calfrac. Stinger. Dynaflo-1, 1000 gals 7 1/2 % acid, 1582 bbls x-link 30Q foam, 10360# 100 mesh, 80650# 30/50, 762.5 bbls CO2. MP: 6613 psi, AP: 4264 psi, AR 11.3 bpm. Pressured out on 2 ppg sand, cut CO2. Finish w/6000# 4 ppg, flush 2 bbls short, x-link fluid. ISIP: 612 psi, 5 min 667 psi, 10 min 642 psi, 15 min 619 psi.

**CDMN (8/18/82)** 6447-64, 6481-6506' (1hpf, 22 holes, .34" ehd)

**Acid (8/19/82)** 6481-6506' acidized w/ 2000gal 7-1/2% Reg & 30 BS

MR 8.1bpm AR 5.2bpm MP 4430# AR 2900#

Balled off at 4430# ISIP 700#, 15min 100#, swab/flow 70 mcf

**Frac (8/25/82)** 6447-6506' 220,000# 20/40sd, 3167gal Versagel fluid 1600 & 1500 w/ 500scf CO2/bbl, 1#, 2#, 2 1/2#, 3#, 3 1/2#, 4#

MR 49.6bpm+CO2 AR 48.5bpm+CO2 MP 4130# AP 4000#

ISIP 2600, 15min 1070

**Production tubing:** 10/11/10 1.900" 2.76# IJ  
8' x 1.660" NC, sub, 5 jts 1.660" IJ 10rd tbg, x-o sub 1.660 x 1.900", SN,  
1.37" ID, 185 jts 1.900" 2.76# IJ 10rd.  
EOT 6364' SN 6195'

**Packer:** 4 1/2" Arrowdrill Seal-Bore (2.688" ID) w/knock out bottom (2.688" ID)  
set at 6196', 5000# tension

**Rods:** None

**Production:** 10/18/10 Gas sales. ~200 mcf  
03/03/10 Present production 160 mcf/d, 5 bw/d, Cum=82.5 mmcf 12/2009  
08/01/08 DOFS – 550 mcf/d  
Previous: Cum: 0mcf – never hooked up to sales line (see history for test rates)  
07/15/08 Layed surface line, 4" 1500 psi Flexpipe,  
10/12/07 TDS=25522 ppm, sample had 5% oil cut, 40 deg API gravity  
10/10/07 CO2=2.61%, N2=.68%, BTU=1023, SG=.6137  
09/14/07 SBHP=1645 psia at 6476.5', 2.54 psi/ft, 204 deg F, no tbg, CP: 469 psi  
07/31/98 SBHP=1617 psia at 6476', 202 deg F, no tbg, CP: 1245 psia  
08/30/82 IP: 1162 mcf/d, TP: no tbg, CP: 50 psi, Ck: 2", trace of water

**History:**

**Drilling**

07/16/82 Spud (Koch) Chase Rig #1, 07/26/82 TD, lost 120 bbls at 3898', lost 650 bbls total at 4230', 4280' & 4366', lost 175 bbls total at 4845' & 5157', lost 500 bbls at 5454', lost 100 bbls at 6195' (mw 8.8-9.0, vis 31-34, wl 10-20, ph 8-8.8), 3 days to log & C&C hole, did not get logs to TD, bridges at 3600', 3915' & 4111', log from 6488' (mw 8.8, vis 95, wl 7.1, ph 8.8), lost circ w/20 bbls displacement to go during 2<sup>nd</sup> stage cmt job on prod csg

**Completion/Workovers**

10/6/14 Tubing Repair, Top of Fish 6173  
9/20/10 Recomplete to Dakota. Utilize sand plugs. Commingle.  
Replace 1.660" tbg with 1.900".  
10/09/07 MIT failed. Flow test 750 mcf/d, 30 bpd w/5% oil cut, TP: 180 psi, CP: Pkr, CK: open, Sep: 150 psi, HIC 1957-2018', 3745-3807', 4363-4424', set WLS Arrowdrill seal-bore pkr w/knock out plug, run latching seal assembly, x-o, perf sub and 2 7/8" liner, cmt w/100 sx 11.0 ppg & 30 sx 15.8 ppg, over displace by 1-2 bw, est TOC 500-700' from surface, run 1.660" IJ tbg w/saw tooth cut rite on bottom jt, tag 6209', drill 6" cmt, set

down to knock out plug, 1<sup>st</sup> tbg cplg will not go thru seal assembly, swab/flow, SI, TP: 1350 psi, CP: 1350 psi

09/14/07 SBHP=1645 psia at 6500', oil level starting at 3213' with .138 to .330 psi/ft gradient at 6000' & water level at 6010' with .427 psi/ft gradient, 204 deg F, SICP: 469 psig, no tbg.

07/31/98 SI BHP 1617 @ 6476'  
 SI BHT 202F @ 6476'  
 SI WHP 1245, tagged TD @ 6519' w/ 1.88" gauge ring

08/10/82 Completion. Tbg parted twice while drilling out cmt, circ w/5% kcl water, ran CBL, TOC 6150' no cmt above 6150', no cmt above DV @ 2172', log from 2300-1800' – no cmt, perf CDMN, acidize, frac

08/26/82 42 hrs after frac, 2464mcf w/ very hvy mist – gas will not burn

08/27/82 66 hrs after frac, 1205mcf w/ hvy mist – gas will burn

08/28/82 90 hrs after frac, 1291mcf w/ mod mist – no show of solid wtr

08/29/82 114 hrs after frac, 1205mcf, slt mist

08/30/82 138 hrs flwg 1162mcf w/ slt mist

Winter Flats 1-13-100

**OBJECTIVE:** Plug and Abandon

**NOTIFY COGCC & BLM (Verbal Approval for P&A procedure is required from the BLM)**

Notify landowner 7 days and COGCC and BLM 48 hrs prior to moving in

1. Set and test deadman anchors as necessary.
2. MIRU workover rig. ND WH. NU BOP's.
3. RIH w/CIBP on WL and 2 7/8" cast iron plug, set @ 6150'.
4. Pressure up 2 7/8 to 400 psi, Use digital recorder if available to test for leaks.
5. Dump bail 1 sk of Class "C" or Type III cement on top CIBP, POH
6. RIH with Wireline and shoot 4 holes @ 1950 POH
7. RIH w/CR on WL set @ 1900 POH
8. TIH w/stinger and 1.9 tbg and sting into cement retainer, pump 50 sks class "c" or type "III" cement below retainer. Sting Out, dump 1 sks cement on top of retainer.
9. RIH with Wireline and Perforate 1025' with 4 holes, POH.
10. RIH w/ CR on WL to 925'. POH.
11. TIH w/stinger and 1.9 tbg and sting into cement retainer, pump 25 sks class "c" or type "III" cement below retainer. Sting Out, dump 1 sks cement on top of retainer.
12. RIH with Wireline and Perforate 4 holes @ 308'. POH
13. TIH and Mix 300 sks of cement and bring to surface.

14. Dig out wellhead, cut off 9 5/8", 4 1/2" Casing and 2 7/8 tubing 6" below ground level. Install dry hole marker plate as per BLM and COGCC.
15. Reclaim Location and File necessary sundries.