



Mudgrouve

Petroleum Geology
212 Main Street, Claflin KS

NOTES

Company: American Warrior, Inc.
Lease: Habiger Unit 1-14
Field: None
Location: NW-NW-SW-NW (1639' FNL & 130' FWL)
Sec: 14 Twsp: 18S Rge: 10W
County: Rice State: Kansas

KB: 1765" GL: 1757"
API #: 15-159-22805-00
Contractor: Duke Drilling Inc. (Rig #8)
Spud: 10/09/2014 Comp: 10/14/2014
RTD: 3400' LTD: 3394'
Mud Up: 2600' Type Mud: Chemical

Samples Saved From: 2700' to RTD
Drilling Time Kept From: 2700' to RTD
Samples Examined From: 2700' to RTD
Geological Supervision from: 2700' to RTD
Geologist on Well: Wyatt Urban

Surface Casing: 8 5/8" @ 412'
Production Casing: 5 1/2" @ 3395'

Electronic Surveys: Logged by Pioneer Energy Services: DIL, MEL, CNL/CDL

Image Header 02

American Warrior, Inc.

DRILLING WELL					COMPARISON WELL				COMPARISON WELL			
American Warrior-Habiger Unit 1-14					American Warrior-Delbert 1-15				Circle Oil Co. Mehl #1			
NW-NW-SW-NW					SW-NE-NE-NE				NE-SW-NW			
14-18S-10W					15-18S-10W				14-18S-10W			
1765 KB					1774 KB				1764 KB			
● oil					● oil				○ dry hole			
					Structural Relationship				Structural Relationship			
Formation	Sample	Sub-Sea	Log	Sub-Sea	Log	Sub-Sea	Sample	Log	Log	Sub-Sea	Sample	Log
Anhydrite	475	1290	477	1288	484	1290	0	-2	458	1306	-16	-18
B. Anhydrite	492	1273	494	1271	501	1273	0	-2				
Heebner	2802	-1037	2803	-1038	2807	-1033	-4	-5	2801	-1037	0	-1
Toronto	2816	-1051	2822	-1057	2824	-1050	-1	-7				
Douglas	2832	-1067	2831	-1066	2836	-1062	-5	-4				
Brown Lime	2922	-1157	2923	-1158	2926	-1152	-5	-6				
Lansing	2936	-1171	2942	-1177	2947	-1173	2	-4	2950	-1186	15	9
BKC	3213	-1448	3212	-1447	3212	-1438	-10	-9	3220	-1456	8	9
Conglomerate	3261	-1496	3257	-1492	3257	-1483	-13	-9				
Arbuckle	3275	-1510	3273	-1508	3273	-1499	-11	-9	3279	-1515	5	7
RTD	3400	-1635	3400	-1635	3400	-1626	-9	-9	3295	-1531	-104	-104
LTD	3394	-1629	3394	-1629	3400	-1626	-3	-3				

Image Header 03

	DRILL STEM TEST REPORT	
	American Warrior Inc	14-18s-10w Rice
		Habiger Unit #1 14



3118 Cummings Rd
Garden City KS 67846

Habiger Unit #1-14

Job Ticket: 60450

DST#: 1

ATTN: Wyatt Urban

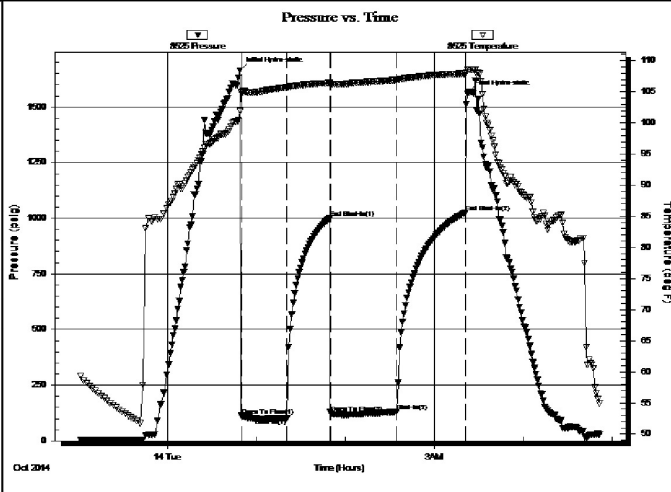
Test Start: 2014.10.13 @ 23:00:00

GENERAL INFORMATION:

Formation: **Arbuckle**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 00:50:00
 Time Test Ended: 04:52:00
 Interval: **3204.00 ft (KB) To 3285.00 ft (KB) (TVD)**
 Total Depth: 3285.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Poor
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Jared Scheck
 Unit No: S5-Great Bend-70
 Reference Elevations: 1765.00 ft (KB)
 1757.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 8525 Outside
 Press@RunDepth: 129.90 psig @ 3271.00 ft (KB) Capacity: 5000.00 psig
 Start Date: 2014.10.13 End Date: 2014.10.14 Last Calib.: 2014.10.14
 Start Time: 23:01:00 End Time: 04:52:00 Time On Btm: 2014.10.14 @ 00:48:30
 Time Off Btm: 2014.10.14 @ 03:22:30

TEST COMMENT: IFP 30 Minutes-Fair blow built bottom of bucket in 22 minutes tool chased 10 feet to bottom
 ISIP 30 Minutes-No blow back
 FFP 45 Minutes-Weak blow built bottom of bucket in 45 minutes
 FSIP 45 Minutes-No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1664.65	101.84	Initial Hydro-static
2	112.00	104.97	Open To Flow (1)
32	103.19	105.69	Shut-In(1)
61	998.92	106.44	End Shut-In(1)
62	123.76	106.23	Open To Flow (2)
106	129.90	106.91	Shut-In(2)
153	1025.81	107.94	End Shut-In(2)
154	1561.66	108.59	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
60.00	oil cut mud 10%oil 90%mud	0.84
60.00	Mud Oil 20%mud 80%oil	0.84
60.00	Gas oil 10%gas 90%oil	0.84

Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

ROCK TYPES

Cht vari
 Lmst fw<7
 shale, gry
 shale, red
 Dolprim
 shale, grn
 Carbon Sh

ACCESSORIES

FOSSIL

Oolite
 Oomoldic

STRINGER

Sandstone

OTHER SYMBOLS

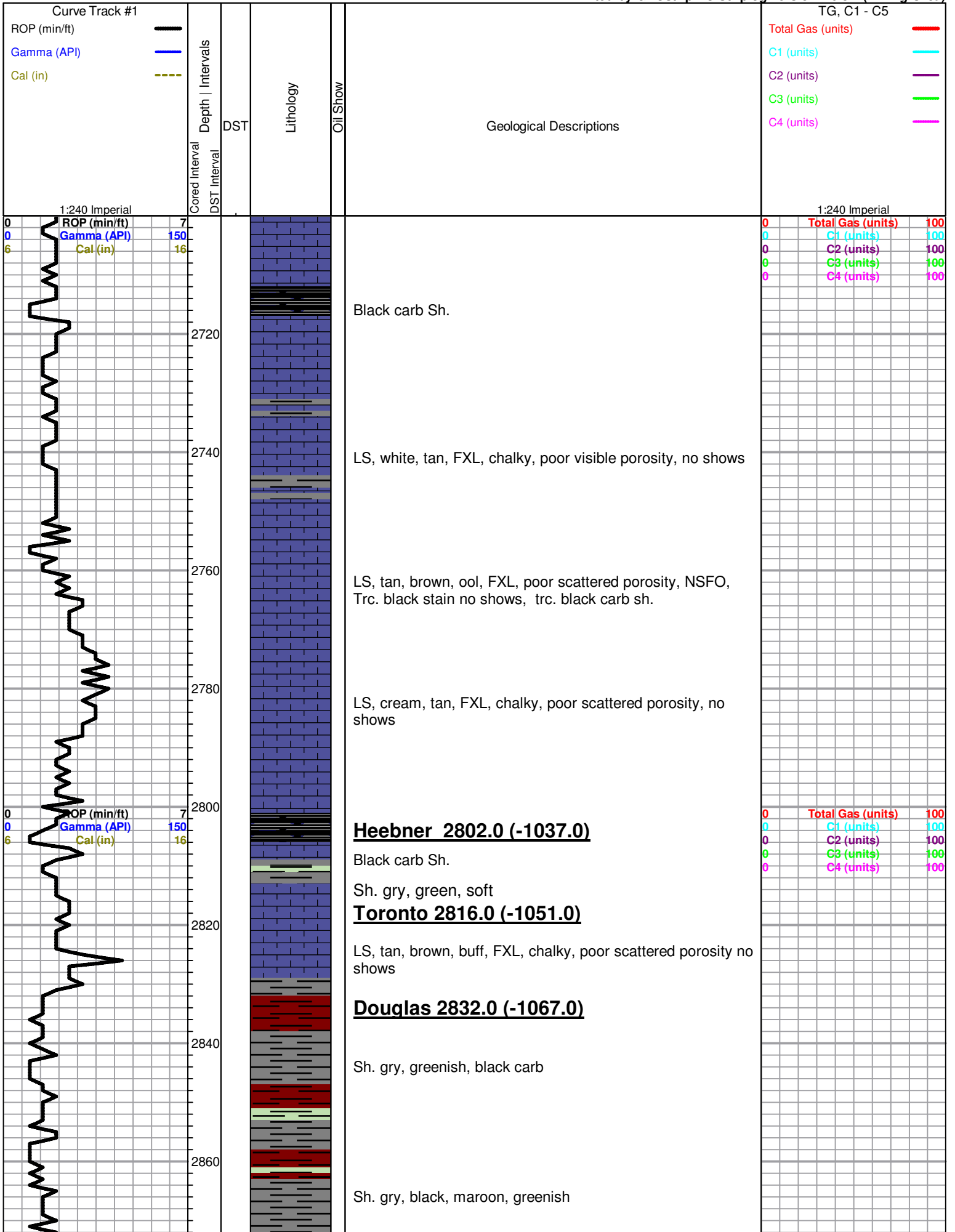
Oil Show

Good Show
 Fair Show
 Poor Show
 Spotted or Trace
 Questionable Stn
 Dead Oil Stn

DST

DST Int
 DST alt
 Core
 tail pipe

- Dead Oil Str
- Fluorescence
- * Gas



Black carb Sh.

LS, white, tan, FXL, chalky, poor visible porosity, no shows

LS, tan, brown, ool, FXL, poor scattered porosity, NSFO, Trc. black stain no shows, trc. black carb sh.

LS, cream, tan, FXL, chalky, poor scattered porosity, no shows

Heebner 2802.0 (-1037.0)

Black carb Sh.

Sh. gry, green, soft

Toronto 2816.0 (-1051.0)

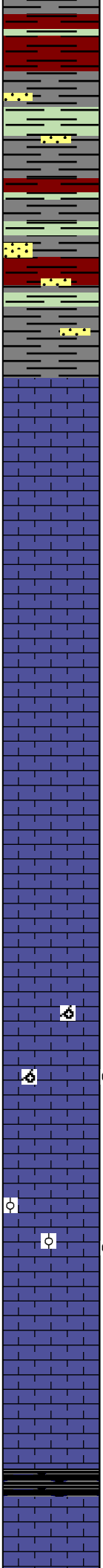
LS, tan, brown, buff, FXL, chalky, poor scattered porosity no shows

Douglas 2832.0 (-1067.0)

Sh. gry, greenish, black carb

Sh. gry, black, maroon, greenish

2880
2900
2920
2940
2960
2980
3000
3020
3040
3060
3080



Sh. A/A, Trc. Sd. gry, F. grain, well sorted, no shows,

Sh. black, gry, maroon, Trc. Sd. A/A

Brown Lime 2922.0 (-1157.0)

LS, brown, FXL, dense, poor visible porosity, no shows

Lansing 2936.0 (-1171.0)

LS, cream, tan, FXL, few foss, poor visible porosity, no shows, trc. black stain

LS, cream, tan, FXL, few foss, poor visible porosity, no shows

LS, cream, buff, FXL, poor visible porosity, chalky, no shows,

LS, cream, tan, FXL, few foss, poor visible porosity, no shows

LS, cream, tan, brown, FXL, foss, poor scattered porosity, NSFO, odor???

LS, cream, tan, chalky, ool, poorly developed, poor oom vuggy porosity, Trc. SFO, odor???, trc. black stain

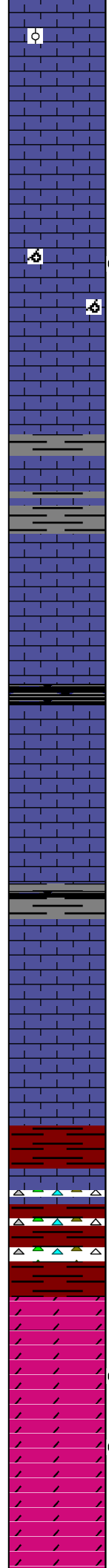
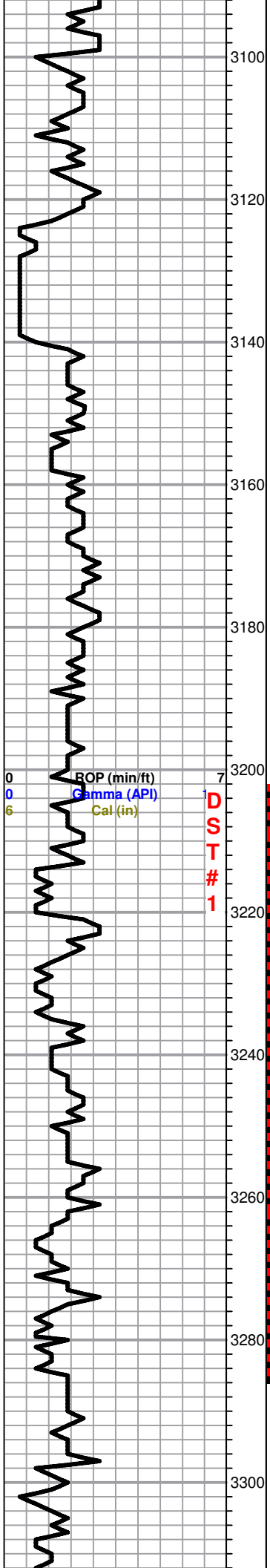
LS, tan, ool, poor oom porosity, Tr. SFO, odor???, trc. brown stain

LS, cream, white, FXL, poor visible porosity, chalky, no shows

Black carb sh.

ROP (min/ft) 7
Gamma (API) 150
Gal (in) 16

0	Total Gas (units)	100
0	C1 (units)	100
0	C2 (units)	100
0	C3 (units)	100
0	C4 (units)	100



LS, cream, tan, brown, ool, poor scattered porosity, cherty in pts, no shows,

LS, tan, FXL, foss, poor scattered porosity, no shows, no odor

LS, white, cream, ool, chalky, poor - fair scattered oom porosity, NSFO trc. black stain.

LS, cream, tan, FXL, few foss, poor scattered porosity, chalky in parts, no shows, Trc. gry silty sh.

LS, white, tan, FXL, dense, cherty, poor visible porosity, no shows

Sh. black carb, gry, silty

LS, cream, white, FXL, poor visible porosity, chalky, no shows

BKC 3213.0 (-1448.0)

Sh. black, maroon, greenish,

LS, white, cream, white, FXL, chalky, few foss, poor visible porosity, no shows

Conglomerate 3246.0 (-1481.0)

Sh. maroon, soft, red wash, trc. cherts white, opaque, orange

LS, cream, tan, FXL, few foss, poor scattered porosity, no shows

Sh. maroon, greenish, trc. cherts, A/A, no shows

Arbuckle 3275.0 (-1510.0)

Dol. white, FXL, dense, poor scattered porosity, Lt. spty SFO, Fair odor, Lt. brown stain

Dol. white, F-Med XLN, suc. poor-fair scattered porosity, fair INXLN porosity, Lt. SFO, fair odor, Lt. brown stain

Dol. white, F-Med XLN, rhombic, fair INXLN porosity, no shows, ft. odor,

0	Total Gas (units)	100
0	C1 (units)	100

DST #1 3204-3285

30-30-45-45

Blow: BOB 22 min.

Recovery:

60' GO
(10% G, 90%O)

60' OCM
(80%O, 20%M)

60' OCM
(10%O, 90%M)

Pressures

ISIP 998 psi
FSIP 1025 psi
IFP 112-103 psi
FFP 123-129 psi
HSH 1664-1561 psi

