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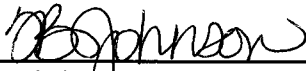
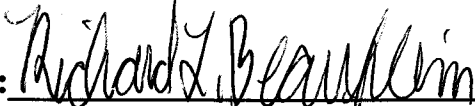
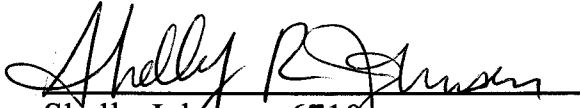
**Routine Calculations Report  
In Support of Task 6 of AP-114**

**2007 Calculated Densities for Use in Deriving Equivalent Freshwater  
Heads of the Culebra Dolomite Member of the Rustler Formation near  
the WIPP Site, May 2007**

**(AP-114: Analysis Plan for Evaluation and Recalibration of Culebra  
Transmissivity Fields, ERMS 537208)**

**WBS 1.4.2.3**

**Report Date: February 7, 2008**

<b>Author:</b>	<u></u> Patricia B. Johnson, 6712 Consulting Scientist	<u>2/7/08</u> Date
<b>Technical Review:</b>	<u></u> Richard L. Beauheim, 6712 Sandia National Laboratories	<u>2/7/08</u> Date
<b>QA Review:</b>	<u></u> Shelly Johnson, 6710 Carlsbad Programs Group	<u>2-7-08</u> Date

**Title of Calculation:**

2007 Calculated Densities for Use in Deriving Equivalent Freshwater Heads of the Culebra Dolomite Member of the Rustler Formation near the WIPP Site, May 2007 in support of Task 6 of AP-114.

**1. Planning Document:**

AP-114 (ERMS 537208): Analysis Plan for Evaluation and Recalibration of Culebra Transmissivity Fields, Task 6, Calculation of Freshwater Heads and Compilation of Transient Heads to be Used in T-Field Calibration.

Note: A slight deviation from the task 6 specifications in AP-114 is more recent data (2007) were used to calculate the densities for the wells than was specified in AP-114 (late 2004 or early 2005) so that more current head data could be used.

**2. Description of Calculation Process:**

The densities of the water in the WIPP wells in the Culebra Dolomite Member of the Rustler Formation were calculated using pressure data collected by downhole pressure gauges, the depths of the pressure gauges, and the corresponding water level data. In-Situ miniTrolls or LevelTrolls were used to collect the downhole pressure data. Specifically, the pressure values were divided by the corresponding water level minus the Troll depth, and that result was then divided by 0.4335 (pressure to feet of water conversion). When using pressure data from a LevelTroll, barometric pressure values were subtracted from the water pressure prior to dividing by the water level minus the Troll depth, then dividing that result by 0.4335. This calculation resulted in a density value for the date and time of the subject water level data and the corresponding pressure data. Depending on data availability, densities were calculated and averaged for a final value. Initially, attempts were made to consistently use April and May 2007 water level and pressure data to calculate the densities; however, because the data during this time period were not always available, some of the densities were calculated using data from other time periods. The densities are used for the purposes of calculating equivalent freshwater heads for the Culebra wells.

The densities that will be used to calculate freshwater head equivalents for 2007 were calculated in the *May07 Troll Calc Dens.xls* file created in Excel. The worksheet *Summ of Calc Dens* summarizes all of the resulting density values and supporting information for the calculated densities and the worksheet *Summ of Calc Dens\_Formulas* provides the formulas in the worksheet. In addition, there are worksheets for each of the wells that include the actual data used for the calculations and a plot of the Troll pressure data. The resulting density values and the supporting information are included in the worksheet *Summ of Calc Dens* and the formulas are included in the worksheet *Summ of Calc Dens\_Formulas*. The spreadsheet entries were verified by Shelly Johnsen, Organization 6710. The columns in the worksheets and their contents are described below:

- A – Monitor Well – Well name
- B – Calc Dens – Calculated Density Value (no units)

- C – # of Dens Averaged – number of density values averaged to get the final value
- D – Troll – Mini or Level/Vented (v) or Non-Vented (nv) – information on the type of Troll and cable used to collect pressure measurements
- E – Range of Data Used for Calc – Time period for pressure data used in calculations
- F – Troll File Name(s) – File names for pressure data
- G – Date of Install – date that the Troll was installed into the well
- H – Troll Install Depth (ft BTOC) – Depth the Troll was installed to below top of casing
- I – Troll Ideal Install Depth (ft BTOC) – Mid-Culebra depth (unless otherwise noted)
- J – Actual-Ideal Install Depth – Number of feet the Troll was installed off Ideal
- K – Installation Logbook Page – Reference to the logbook and page where the Troll installation was documented
- L – Data Source/Other Issues – Comments and or issues regarding data

Notes regarding the plots on individual well worksheets:

- Depth to water measurements are referenced to top of casing unless otherwise noted.
- Troll depth measurements are referenced to top of casing unless otherwise noted.

### 3. Identification/Listing of Input, Input sources, and Output:

- Excel spreadsheet including the data – May07 Troll Calc Dens.xls
  - Worksheet 1 – Summ of Calc Dens (printed copy attached)
  - Worksheet 2 – Summ of Calc Dens\_Formulas (printed copy attached)
  - Worksheet 3 – AEC-7
  - Worksheet 4 – C-2737
  - Worksheet 5 – ERDA-9
  - Worksheet 6 – H-2b2
  - Worksheet 7 – H-3b2
  - Worksheet 8 – H-4b
  - Worksheet 9 – H-5b
  - Worksheet 10 – H-6b
  - Worksheet 11 – H-7b1
  - Worksheet 12 – H-9c
  - Worksheet 13 – H-10c
  - Worksheet 14 – H-11b4
  - Worksheet 15 – H-12
  - Worksheet 16 – H-15
  - Worksheet 17 – H-17
  - Worksheet 18 – H-19b0
  - Worksheet 19 – H-19b2
  - Worksheet 20 – H-19b3

- Worksheet 21 – H-19b4
- Worksheet 22 – H-19b5
- Worksheet 23 – H-19b6
- Worksheet 24 – H-19b7
- Worksheet 25 – IMC-461
- Worksheet 26 – SNL-1
- Worksheet 27 – SNL-2
- Worksheet 28 – SNL-3
- Worksheet 29 – SNL-5
- Worksheet 30 – SNL-6
- Worksheet 31 – SNL-8
- Worksheet 32 – SNL-9
- Worksheet 33 – SNL-10
- Worksheet 34 – SNL-12
- Worksheet 35 – SNL-13
- Worksheet 36 – SNL-14
- Worksheet 37 – SNL-15
- Worksheet 38 – SNL-16
- Worksheet 39 – SNL-17
- Worksheet 40 – SNL-18
- Worksheet 41 – SNL-19
- Worksheet 42 – USGS-4
- Worksheet 43 – WIPP-11
- Worksheet 44 – WIPP-13
- Worksheet 45 – WIPP-19
- Worksheet 46 – WIPP-25
- Worksheet 47 – WIPP-30

**4. Data Qualification for Compliance Decision Analysis:**

Data sources provided in Column F (Troll File Name(s)), Column K (Installation Logbook Page), and in Section 7.0.

**5. Software Used:**

Microsoft Office Excel 2003 SP2, Intel Pentium 2 Quad CPU processor under Microsoft Windows XP

**6. Reviews:**

Technical: Richard L. Beauheim, 6712  
QA: Shelly Johnsen, 6710

**7. References:**

- Troll installation data and SNL water level data from the following logbooks:
  - Long-Term Monitoring Notebook (LTM) 2 (ERMS 545216)
  - Long-Term Monitoring Notebook (LTM) 3 (ERMS 546179)
  - Long-Term Monitoring Notebook (LTM) 4 (ERMS 547753)
  - Long-Term Monitoring Notebook (LTM) 5 (ERMS 547072)

Long-Term Monitoring Notebook (LTM) 6 (ERMS 548068)

WIPP Site Well Testing (WSWT) 9 (ERMS 545596)

WIPP Site Well Testing (WSWT) 11 (ERMS 548076)

- Culebra Center Depths for Use in Calculating Equivalent Freshwater Heads (ERMS 548032)
- WRES Water Level Data submitted to SNL in monthly memoranda (package ERMS 546636)

**8. List of Attachments:**

1. Printout of Excel file worksheet Summ of Calc Dens.xls
2. Printout of Excel file worksheet Summ of Calc Dens\_Formulas.xls
3. Worksheet 3 – AEC-7 (calculated density table and plot)
4. Worksheet 4 – C-2737 (calculated density table and plot)
5. Worksheet 5 – ERDA-9 (calculated density table and plot)
6. Worksheet 6 – H-2b2 (calculated density table and plot)
7. Worksheet 7 – H-3b2 (calculated density table and plot)
8. Worksheet 8 – H-4b (calculated density table and plot)
9. Worksheet 9 – H-5b (calculated density table and plot)
10. Worksheet 10 – H-6b (calculated density table and plot)
11. Worksheet 11 – H-7b1 (calculated density table and plot)
12. Worksheet 12 – H-9c (calculated density table and plot)
13. Worksheet 13 – H-10c (calculated density table and plot)
14. Worksheet 14 – H-11b4 (calculated density table and plot)
15. Worksheet 15 – H-12 (calculated density table and plot)
16. Worksheet 16 – H-15 (calculated density table and plot)
17. Worksheet 17 – H-17 (calculated density table and plot)
18. Worksheet 18 – H-19b0 (calculated density table and plot)
19. Worksheet 19 – H-19b2 (calculated density table and plot)
20. Worksheet 20 – H-19b3 (calculated density table and plot)
21. Worksheet 21 – H-19b4 (calculated density table and plot)
22. Worksheet 22 – H-19b5 (calculated density table and plot)
23. Worksheet 23 – H-19b6 (calculated density table and plot)
24. Worksheet 24 – H-19b7 (calculated density table and plot)
25. Worksheet 25 – IMC-461 (calculated density table and plot)
26. Worksheet 26 – SNL-1 (calculated density table and plot)
27. Worksheet 27 – SNL-2 (calculated density table and plot)
28. Worksheet 28 – SNL-3 (calculated density table and plot)
29. Worksheet 29 – SNL-5 (calculated density table and plot)
30. Worksheet 30 – SNL-6 (calculated density table and plot)
31. Worksheet 31 – SNL-8 (calculated density table and plot)
32. Worksheet 32 – SNL-9 (calculated density table and plot)
33. Worksheet 33 – SNL-10 (calculated density table and plot)
34. Worksheet 34 – SNL-12 (calculated density table and plot)
35. Worksheet 35 – SNL-13 (calculated density table and plot)
36. Worksheet 36 – SNL-14 (calculated density table and plot)

37. Worksheet 37 – SNL-15 (calculated density table and plot)
38. Worksheet 38 – SNL-16 (calculated density table and plot)
39. Worksheet 39 – SNL-17 (calculated density table and plot)
40. Worksheet 40 – SNL-18 (calculated density table and plot)
41. Worksheet 41 – SNL-19 (calculated density table and plot)
42. Worksheet 42 – USGS-4 (calculated density table and plot)
43. Worksheet 43 – WIPP-11 (calculated density table and plot)
44. Worksheet 44 – WIPP-13 (calculated density table and plot)
45. Worksheet 45 – WIPP-19 (calculated density table and plot)
46. Worksheet 46 – WIPP-25 (calculated density table and plot)
47. Worksheet 47 – WIPP-30 (calculated density table and plot)
48. CD including the Excel file and documentation of calculation file

A	B	C	D	E	F	G	H	I	J	K	L
Monitor Well	Calc Dens	# of Dens Averaged	Troll - Mini or Level/Vented (v) or Non-Vented (nv)	Range of Data Used for Calc	Troll File Name(s)	Date of Install	Troll Install Depth (ft BTOC)	Troll Ideal Install Depth (ft BTOC)	Actual-Ideal Install Depth	Installation Logbook Page	Data Source/Other Issues
AEC-7	1.211	6	Level, nv	12/07	SN106823 120507 AEC-7(C-den) 2007-12-05 14.20.11.wsl	12/5/2007	870	874.2	-4.1	LTM 6 - 29	
C-2737	1.010	4	Level, nv	5-6/07	SN110382 041907 C-2737(C14) 2007-05-21 09.14.26.wsl, SN110382 041907 C-2737(C14) 2007-06-18 08.07.42.wsl	4/19/2007	690.5	686.5	4.0	LTM 4 - 67	Freshwater was added during PIP installation and appears to have not been removed
ERDA-9	1.047	4	Mini, v	4-5/07	SN13566 2007-03-14 150000 ERDA-9(C6).bin	3/14/2007	450.8	715.9	-265.1	LTM 4 - 10	
H-2b2	1.014	3	Mini, v	8-9/07	SN17353 2007-08-08 120000 H-2b2(C2).bin	8/6/2007	550.1	634.0	-83.9	LTM 4 - 137	
H-3b2	1.042	3	Mini, v	8-9/07	SN17764 2007-08-08 120000 H-3b2 (C2).bin	8/6/2007	602.7	686.5	-83.8	LTM 4 - 138	
H-4b	1.015	4	Mini, v	4-5/07	SN17310 2006-07-25 140000 H-4b(C4).bin	7/25/2006	500.8	503.0	-2.2	LTM 2 - 68	
H-5b	1.091	4	Mini, v	4-5/07	SN11336 2007-03-14 160000 H-5b(C5).bin	3/13/2007	550.8	908.5	-357.7	LTM 4 - 7	
H-6b	1.034	2	Mini, v	4/07	SN17400 2006-08-22 120000 H-6b(C10).bin	8/22/2006	450.8	615.5	-164.7	LTM 3 - 82	
H-7b1	1.002	4	Mini, v	4-5/07	SN08268 2007-01-25 170000 H-7b1 (C7).bin	1/25/2007	275.8	268.5	7.3	LTM 3 - 114	
H-9c	1.001	3	Mini, v	4-5/07	SN17403 2006-11-22 120000 H-9C (C12).bin	11/22/2006	500.1	662.0	-161.9	LTM 3 - 66	
H-10c	1.008	2	Level, nv	10/07	SN116453 101207 H-10c (C3) 2007-10-17 09.48.13.wsl	10/12/2007	1365.8	1371.2	-5.4	LTM 5 - 86	
H-11b4	1.070	4	Mini, v	4-5/07	SN11231 2006-08-21 120000 H-11b4(C5).bin	8/21/2006	500.8	734.7	-233.9	LTM 2 - 106	
H-12	1.097	3	Mini, v	5-6/07	SN18758 2007-05-21 120000 H-12(C11).bin	5/21/2007	600.8	836.4	-235.6	LTM 4 - 75	
H-15	1.053	4	Mini, v	4-5/07	SN17359 2007-04-10 110000 H-15(CX1).bin	1/29/2007	650.8	870.8	-220.0	LTM 3 - 129	Freshwater was added during PIP installation and appears to have not been removed
H-17	1.133	4	Mini, v	8-9/07	SN17386 1999-04-06 030000 H-17(c1).bin, SN17386 2007-08-27 110000 H-17 (C1).bin	8/6/2007	700.8	718.6	-17.8	LTM 4 - 140	
H-19b0	1.068	4	Mini, v	4-5/07	SN17334 2006-09-08 120000 H-19b0 (C6).bin	9/8/2006	500.8	752.3	-251.5	LTM 3 - 105	
H-19b2	1.071	5	Level, nv	10/07	SN102924 100507 H-19b2 (c1) 2007-10-17 11.02.23.wsl	10/5/2007	753.8	753.8	0.0	LTM 5 - 82	
H-19b3	1.083	2	Level, nv	12/07	SN102927 121107 H-19b3 (C-den2) 2007-12-13 12.04.37.wsl	12/11/2007	755.1	753.0	2.1	LTM 6 - 46	"Ideal install depth" is an average of H-19b0 and H-19b2
H-19b4	1.076	6	Level, nv	12/07	SN102927 120507 H-19b4(C-den) 2007-12-06 09.17.52.wsl	12/5/2007	755.1	753.0	2.1	LTM 6 - 34	"Ideal install depth" is an average of H-19b0 and H-19b2
H-19b5	1.080	7	Level, nv	12/07	SN102927 120607 H-19b5(C-den) 2007-12-06 11.30.47.wsl	12/6/2007	755.1	753.0	2.1	LTM 6 - 38	"Ideal install depth" is an average of H-19b0 and H-19b2
H-19b6	1.083	7	Level, nv	12/07	SN102927 120507 H-19b6(C-den) 2007-12-05 15.32.48.wsl	12/5/2007	754.4	753.0	1.4	LTM 6 - 30	"Ideal install depth" is an average of H-19b0 and H-19b2
H-19b7	1.081	2	Level, nv	12/07	SN102927 120607 H-19b7(C-den2) 2007-12-11 10.03.31.wsl	12/5/2007	755.1	753.0	2.1	LTM 6 - 42	"Ideal install depth" is an average of H-19b0 and H-19b2
IMC-461	1.005	4	Mini, v	4-5/07	SN11028 2006-12-06 160000 IMC-461 (C12).bin	12/6/2006	376.1	374.0	2.1	LTM 3 - 79	
SNL-1	1.033	4	Mini, v	4-5/07	SN11134 2006-11-20 180000 SNL-1 (C12).bin, SN11134 2007-05-23 150000 SNL-1(C13).bin	11/20/2006	610.8	610.0	0.8	LTM 3 - 50	
SNL-2	1.012	2	Level, nv	8-9/07	SN116305 082707 SNL-2 (C20) 2007-10-25 13.48.43.wsl	8/15/2007	475.8	468.5	7.3	LTM 5 - 16	
SNL-3	1.023	4	Mini, v	4-5/07	SN16771 2006-08-09 120000 SNL-3(C6).bin	8/9/2006	600.8	764.1	-163.3	LTM 2 - 92	
SNL-5	1.010	5	Level, nv	4-6/07	SN110383 120606 SNL-5(C7) 2007-06-18 13.45.17.wsl	12/6/2006	651.1	646.4	4.8	LTM 3 - 78	
SNL-6	1.246	4	Level, nv	4-5/07	SN110407 SNL-6(C2) 10-20-2006 2007-05-23 14.12.47.wsl	10/20/2006	1303.7	1335.3	-31.6	LTM 3 - 19	
SNL-8	1.103	2	Level, nv	8-9/07	SN102926 030207 SNL-8(C13) 2007-05-24 07.59.13.wsl	12/28/2006	968.3	966.0	2.3	LTM 3 - 105	
SNL-9	1.024	4	Level, nv	4-6/07	SN102927 121906 SNL-9 (C14) 2007-06-18 12.14.02.wsl	11/21/2006	564.4	564.4	0.0	LTM 3 - 59	
SNL-10	1.011	4	Mini, v	5-6/07	SN17399 2007-04-19 140000 SNL-10 (C5).bin	4/19/2007	611.5	610.0	1.5	LTM 4 - 63	
SNL-12	1.005	4	Mini, v	4-5/07	SN17716 2006-07-25 120000 SNL-12(C8).bin	7/25/2006	575.8	568.5	7.3	LTM 2 - 66	
SNL-13	1.027	9	Level, nv	4-8/07	SN102903 120606 SNL-13(C14) 2007-08-28 09.31.38.wsl	12/4/2006	402.9	398.0	4.9	LTM 3 - 74	
SNL-14	1.048	1	Level, nv	11/07	SN123367 110907 SNL-14(C16) 2007-11-19 12.29.57.wsl	11/9/2007	667.5	666.2	1.4	WSWT 11 - 106	
SNL-15	1.228	4	Level, nv	4-5/07	SN110962 3-30-07 SNL-15(C8) 2007-04-18 09.38.58.wsl, SN110962 041807SNL-15(C9) 2007-06-18 09.44.34.wsl	3/16/2007	919.5	920.2	-0.6	LTM 4 - 15	
SNL-16	1.010	4	Level, nv	8-10/07	SN116299 080707 SNL-16 (C3) 2007-10-24 15.51.27.wsl	8/7/2007	208.8	205.0	3.8	LTM 4 - 151	
SNL-17	1.006	4	Level, nv	4-6/07	SN102920 032607 SNL-17(C7) 2007-06-18 11.26.19.wsl	1/25/2007	349.5	347.0	2.5	LTM 3 - 113	
SNL-18	1.028	4	Mini, v	4-5/07	SN12473 2006-09-06 100000 SNL-18 (C5).bin	8/30/2006	547.1	547.5	-0.4	WSWT 9 - 96	
SNL-19	1.003	4	Mini, v	4-5/07	SN17621 2006-08-10 110000 SNL-19(C5).bin, SN17621 2007-04-18 150000 SNL-19(C6).bin	8/10/2006, 4/18/07	355.8	351.5	4.3	LTM 3 - 36, LTM 4 - 56	
USGS-4	0.972	4	Mini, v	3-8/07	SN14199 2007-03-02 140000 USGS-4(C1).bin, SN07861 2007-08-28 100000 USGS-4 (C3).bin	1/07 and 6/07	490.8	495.5	-4.7	LTM 3 - 131, LTM 4 - 126	This location is basically freshwater, density value below 0.997 may be due to Troll accuracy/error
WIPP-11	1.038	3	Mini, v	4-5/07	SN13485 2007-03-28 120000 WIPP-11(C16).bin	3/28/2007	500.8	855.5	-354.7	LTM 4 - 40	
WIPP-13	1.053	2	Level, nv	10/07	SN121345 101207 WIPP-13 (C8) 2007-10-17 11.27.48.wsl	10/12/2007	714.8	714.5	0.3	LTM 5 - 87	
WIPP-19	1.044	7	Mini, nv	4-6/07	SN11358 2007-03-14 160000 WIPP-19(C).bin	3/13/2007	741.3	767.4	-26.1	LTM 4 - 8	
WIPP-25	1.011	1	Mini, v	12/07	pressure recorded upon installation	12/19/2007	459.5	459.5	0.0	WSWT-11, 123	Freshwater was added during PIP installation and appears to have not been removed
WIPP-30	0.994	4	Mini, v	4-5/07	SN13475 2006-11-21 130000 WIPP-30 (C10).bin	11/21/2006	500.8	642.0	-141.2	LTM 3 - 55	Freshwater was added during PIP installation and appears to have not been removed; density value below 0.997 may be due to Troll accuracy/error

# Information Only

Summ of Calc Dens

A	B	C	D	E	F	G	H	I	J	K	L
Monitor Well	Calc Dens	# of Dens Averaged	Troll - Mini or Level/Vented (v) or Non-Vented (nv)	Range of Data Used for Calc	Troll File Name(s)	Date of Install	Troll Install Depth (ft BTOC)	Troll Ideal Install Depth (ft BTOC)	Actual-Ideal Install Depth	Installation Logbook Page	Data Source/Other Issues
AEC-7	1.2106	6	Level, nv	12/07	SN106823 120507 AEC-7(C-den) 2007-12-05 14.20.11.wsl	39421	870	874.15	=H4-I4	LTM 6 - 29	
C-2737	1.0103237089464	4	Level, nv	5-6/07	SN110382 041907 C-2737(C14) 2007-05-21 09.14.26.wsl, SN110382 041907 C-2737(C14) 2007-06-18 08.07.42.wsl	39191	690.5	686.5	=H5-I5	LTM 4 - 67	Freshwater was added during PIP installation and appears to have not been removed
ERDA-9	1.04715034025086	4	Mini, v	4-5/07	SN13566 2007-03-14 150000 ERDA-9(C6).bin	39155	450.8	715.9	=H6-I6	LTM 4 - 10	
H-2b2	1.01393932342182	3	Mini, v	8-9/07	SN17353 2007-08-08 120000 H-2b2(C2).bin	39300	550.1	634	=H7-I7	LTM 4 - 137	
H-3b2	1.0423684502679	3	Mini, v	8-9/07	SN17764 2007-08-08 120000 H-3b2 (C2).bin	39300	602.7	686.5	=H8-I8	LTM 4 - 138	
H-4b	1.01480625364005	4	Mini, v	4-5/07	SN17310 2006-07-25 140000 H-4b(C4).bin	38923	500.8	503	=H9-I9	LTM 2 - 68	
H-5b	1.09081606134476	4	Mini, v	4-5/07	SN11336 2007-03-14 160000 H-5b(C5).bin	39154	550.8	908.5	=H10-I10	LTM 4 - 7	
H-6b	1.03363269653144	2	Mini, v	4/07	SN17400 2006-08-22 120000 H-6b(C10).bin	38951	450.8	615.5	=H11-I11	LTM 3 - 82	
H-7b1	1.0021354145033	4	Mini, v	4-5/07	SN08268 2007-01-25 170000 H-7b1 (C7).bin	39107	275.8	268.5	=H12-I12	LTM 3 - 114	
H-9c	1.0013901820967	3	Mini, v	4-5/07	SN17403 2006-11-22 120000 H-9C (C12).bin	39043	500.1	662	=H13-I13	LTM 3 - 66	
H-10c	1.0081181367581	2	Level, nv	10/07	SN116453 101207 H-10c (C3) 2007-10-17 09.48.13.wsl	39367	1365.8	1371.2	=H14-I14	LTM 5 - 86	
H-11b4	1.07030972653042	4	Mini, v	4-5/07	SN11231 2006-08-21 120000 H-11b4(C5).bin	38950	500.8	734.65	=H15-I15	LTM 2 - 106	
H-12	1.0970056355064	3	Mini, v	5-6/07	SN18758 2007-05-21 120000 H-12(C11).bin	39223	600.8	836.35	=H16-I16	LTM 4 - 75	
H-15	1.0533035521443	4	Mini, v	4-5/07	SN17359 2007-04-10 110000 H-15(CX1).bin	39111	650.8	870.75	=H17-I17	LTM 3 - 129	Freshwater was added during PIP installation and appears to have not been removed
H-17	1.1325232662457	4	Mini, v	8-9/07	SN17386 1999-04-06 030000 H-17(c1).bin, SN17386 2007-08-27 110000 H-17 (C1).bin	39300	700.8	718.6	=H18-I18	LTM 4 - 140	
H-19b0	1.068171401485	4	Mini, v	4-5/07	SN17334 2006-09-08 120000 H-19b0 (C6).bin	38968	500.8	752.25	=H19-I19	LTM 3 - 105	
H-19b2	1.0707	5	Level, nv	10/07	SN102924 100507 H-19b2 (c1) 2007-10-17 11.02.23.wsl	39360	753.8	753.8	=H20-I20	LTM 5 - 82	
H-19b3	1.0825240350348	2	Level, nv	12/07	SN102927 121107 H-19b3 (C-den2) 2007-12-13 12.04.37.wsl	39427	755.1	=AVERAGE(\$I\$19:\$I\$20)	=H21-I21	LTM 6 - 46	"Ideal install depth" is an average of H-19b0 and H-19b2
H-19b4	1.0757	6	Level, nv	12/07	SN102927 120507 H-19b4(C-den) 2007-12-06 09.17.52.wsl	39421	755.1	=AVERAGE(\$I\$19:\$I\$20)	=H22-I22	LTM 6 - 34	"Ideal install depth" is an average of H-19b0 and H-19b2
H-19b5	1.0795823355144	7	Level, nv	12/07	SN102927 120607 H-19b5(C-den) 2007-12-06 11.30.47.wsl	39422	755.1	=AVERAGE(\$I\$19:\$I\$20)	=H23-I23	LTM 6 - 38	"Ideal install depth" is an average of H-19b0 and H-19b2
H-19b6	1.0827	7	Level, nv	12/07	SN102927 120507 H-19b6(C-den) 2007-12-05 15.32.48.wsl	39421	754.4	=AVERAGE(\$I\$19:\$I\$20)	=H24-I24	LTM 6 - 30	"Ideal install depth" is an average of H-19b0 and H-19b2
H-19b7	1.0813492105531	2	Level, nv	12/07	SN102927 120607 H-19b7(C-den2) 2007-12-11 10.03.31.wsl	39421	755.1	=AVERAGE(\$I\$19:\$I\$20)	=H25-I25	LTM 6 - 42	"Ideal install depth" is an average of H-19b0 and H-19b2
IMC-461	1.0051217061295	4	Mini, v	4-5/07	SN11028 2006-12-06 160000 IMC-461 (C12).bin	39057	376.1	374	=H26-I26	LTM 3 - 79	
SNL-1	1.0330886935741	4	Mini, v	4-5/07	SN11134 2006-11-20 180000 SNL-1 (C12).bin, SN11134 2007-05-23 150000 SNL-1(C13).bin	39041	610.8	610	=H27-I27	LTM 3 - 50	
SNL-2	1.0118	2	Level, nv	8-9/07	SN116305 082707 SNL-2 (C20) 2007-10-25 13.48.43.wsl	39309	475.8	468.5	=H28-I28	LTM 5 - 16	
SNL-3	1.0233758999635	4	Mini, v	4-5/07	SN16771 2006-08-09 120000 SNL-3(C6).bin	38938	600.8	764.1	=H29-I29	LTM 2 - 92	
SNL-5	1.01	5	Level, nv	4-6/07	SN110383 120606 SNL-5(C7) 2007-06-18 13.45.17.wsl	39057	651.1	646.35	=H30-I30	LTM 3 - 78	
SNL-6	1.2456319417076	4	Level, nv	4-5/07	SN110407 SNL-6(C2) 10-20-2006 2007-05-23 14.12.47.wsl	39010	1303.7	1335.25	=H31-I31	LTM 3 - 19	
SNL-8	1.1026	2	Level, nv	8-9/07	SN102926 030207 SNL-8(C13) 2007-05-24 07.59.13.wsl	39079	968.3	966	=H32-I32	LTM 3 - 105	
SNL-9	1.0243	4	Level, nv	4-6/07	SN102927 121906 SNL-9 (C14) 2007-06-18 12.14.02.wsl	39042	564.4	564.4	=H33-I33	LTM 3 - 59	
SNL-10	1.0106	4	Mini, v	5-6/07	SN17399 2007-04-19 140000 SNL-10 (C5).bin	39191	611.5	610	=H34-I34	LTM 4 - 63	
SNL-12	1.005	4	Mini, v	4-5/07	SN17716 2006-07-25 120000 SNL-12(C8).bin	38923	575.8	568.45	=H35-I35	LTM 2 - 66	
SNL-13	1.0267	9	Level, nv	4-8/07	SN102903 120606 SNL-13(C14) 2007-08-28 09.31.38.wsl	39055	402.9	398	=H36-I36	LTM 3 - 74	
SNL-14	1.0476	1	Level, nv	11/07	SN123367 110907 SNL-14(C16) 2007-11-19 12.29.57.wsl	39395	667.5	666.15	=H37-I37	WSWT 11 - 106	
SNL-15	1.2276838358092	4	Level, nv	4-5/07	SN110962 3-30-07 SNL-15(C8) 2007-04-18 09.38.58.wsl, SN110962 041807SNL-15(C9) 2007-06-18 09.44.34.wsl	39157	919.5	920.15	=H38-I38	LTM 4 - 15	
SNL-16	1.0104	4	Level, nv	8-10/07	SN116299 080707 SNL-16 (C3) 2007-10-24 15.51.27.wsl	39301	208.8	205	=H39-I39	LTM 4 - 151	
SNL-17	1.0060691141389	4	Level, nv	4-6/07	SN102920 032607 SNL-17(C7) 2007-06-18 11.26.19.wsl	39107	349.5	347	=H40-I40	LTM 3 - 113	
SNL-18	1.0275048946484	4	Mini, v	4-5/07	SN12473 2006-09-06 100000 SNL-18 (C5).bin	38959	547.1	547.5	=H41-I41	WSWT 9 - 96	
SNL-19	1.0030480660362	4	Mini, v	4-5/07	SN17621 2006-08-10 110000 SNL-19(C5).bin, SN17621 2007-04-18 150000 SNL-19(C6).bin	8/10/2006, 4/18/07	355.8	351.5	=H42-I42	LTM 3 - 36, LTM 4 - 56	
USGS-4	0.9715865528469	4	Mini, v	3-8/07	SN14199 2007-03-02 140000 USGS-4(C1).bin, SN07861 2007-08-28 100000 USGS-4 (C3).bin	1/07 and 6/07	490.8	495.5	=H43-I43	LTM 3 - 131, LTM 4 - 126	This location is basically freshwater, density value below 0.997 may be due to Troll accuracy/error
WIPP-11	1.038007458099	3	Mini, v	4-5/07	SN13485 2007-03-28 120000 WIPP-11(C16).bin	39169	500.8	855.5	=H44-I44	LTM 4 - 40	
WIPP-13	1.0525	2	Level, nv	10/07	SN121345 101207 WIPP-13 (C8) 2007-10-17 11.27.48.wsl	39367	714.8	714.5	=H45-I45	LTM 5 - 87	
WIPP-19	1.0437050104413	7	Mini, nv	4-6/07	SN11358 2007-03-14 160000 WIPP-19(C).bin	39154	741.3	767.4	=H46-I46	LTM 4 - 8	
WIPP-25	1.011	1	Mini, v	12/07	pressure recorded upon installation	39435	459.5	459.5	=H47-I47	WSWT-11, 123	Freshwater was added during PIP installation and appears to have not been removed
WIPP-30	0.9943730540254	4	Mini, v	4-5/07	SN13475 2006-11-21 130000 WIPP-30 (C10).bin	39042	500.8	642	=H48-I48	LTM 3 - 55	Freshwater was added during PIP installation and appears to have not been removed; density value below 0.997 may be due to Troll accuracy/error

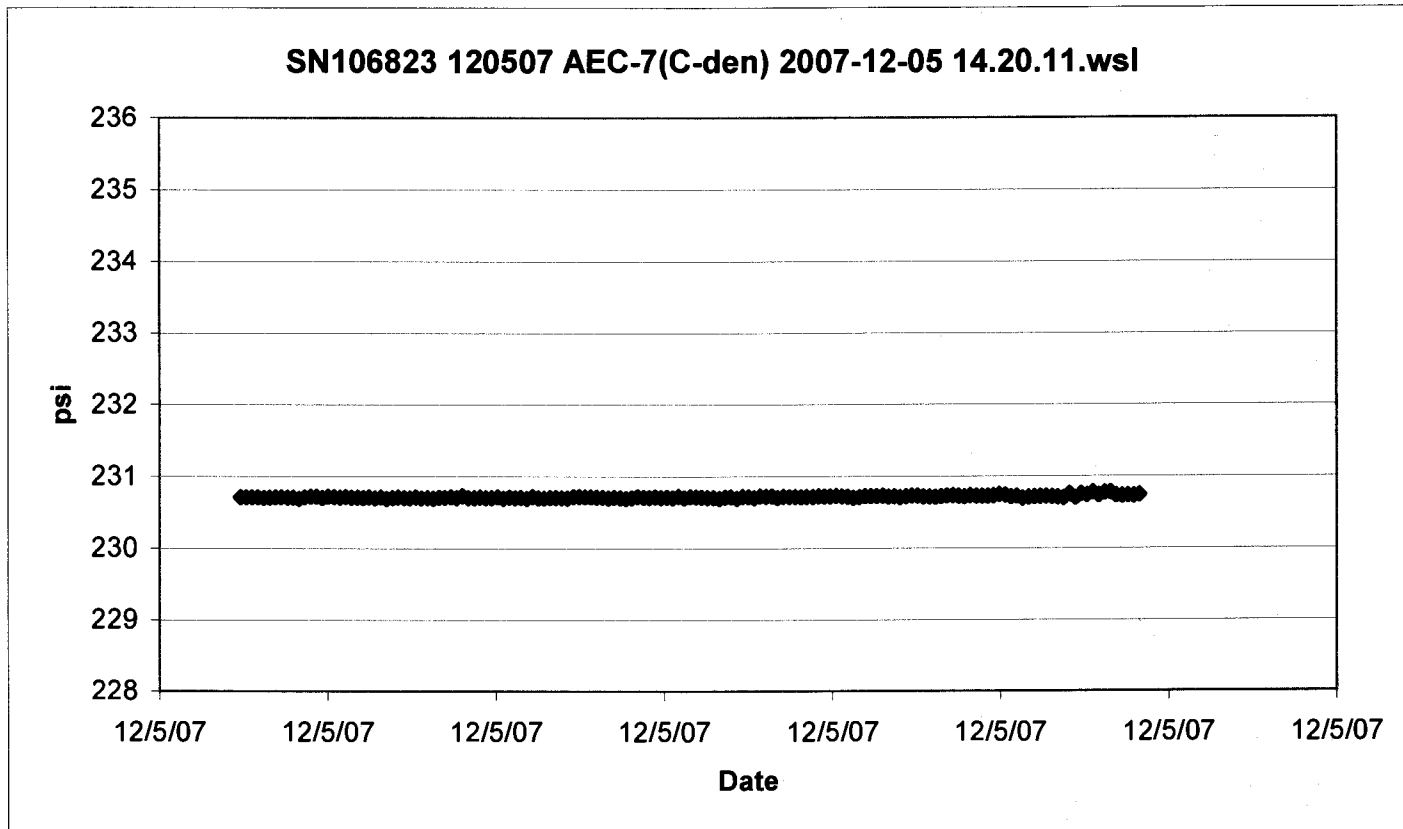
Summ of Calc Dens Formulas

# Information Only



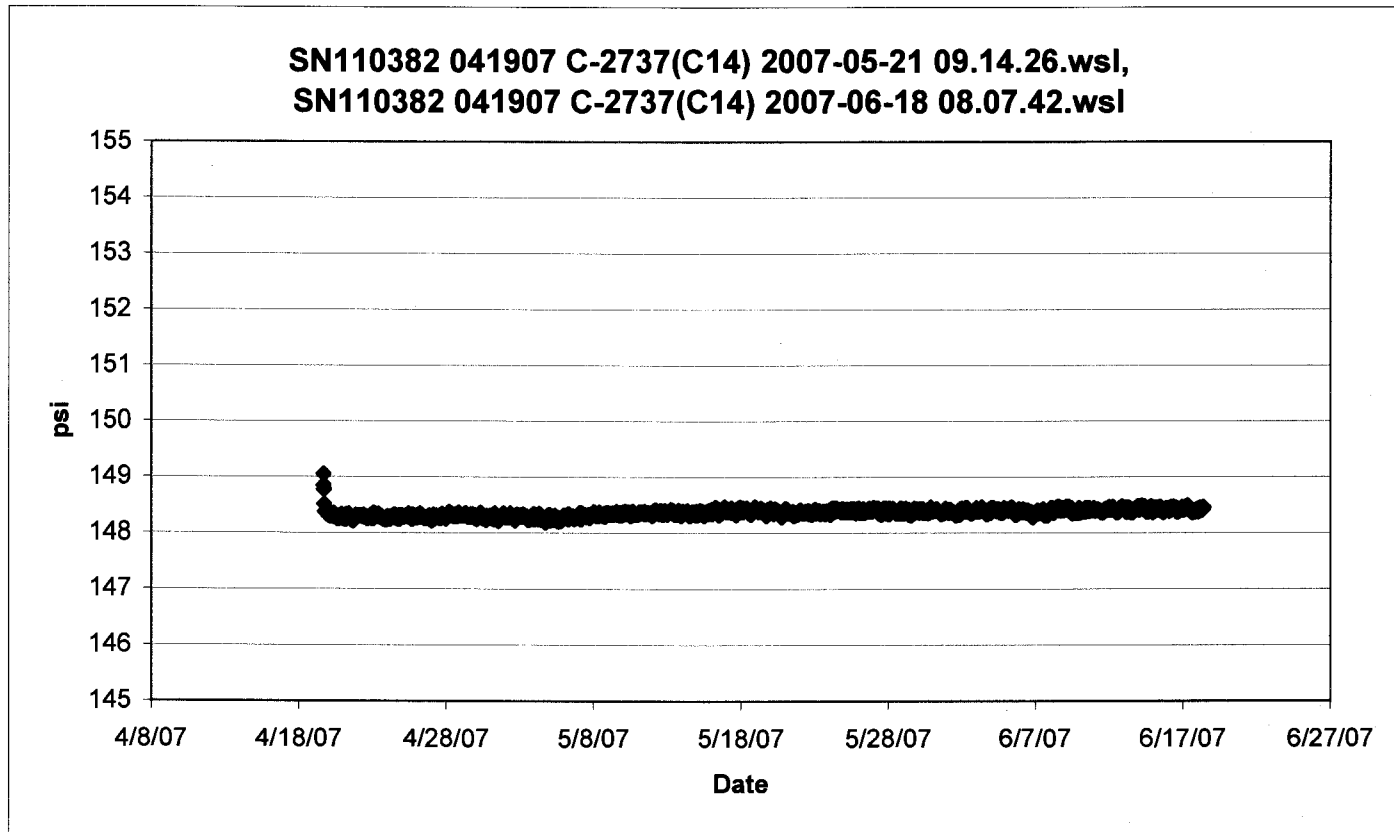
AEC-7

Date/Time	PSI	DTW	DTW Source	Troll Depth	Baro Pressure	Calc Dens	Average
12/5/2007 14:00	230.714	455.14	SNL	870	12.995	1.2106	1.2106
12/5/2007 14:05	230.714	455.14	SNL	870	13.002	1.2106	
12/5/2007 14:10	230.742	455.13	SNL	870	13.003	1.2107	
12/5/2007 14:15	230.735	455.13	SNL	870	13.017	1.2106	
12/5/2007 14:17	230.737	455.13	SNL	870	12.996	1.2107	
12/5/2007 14:19	230.746	455.13	SNL	870	13.021	1.2106	



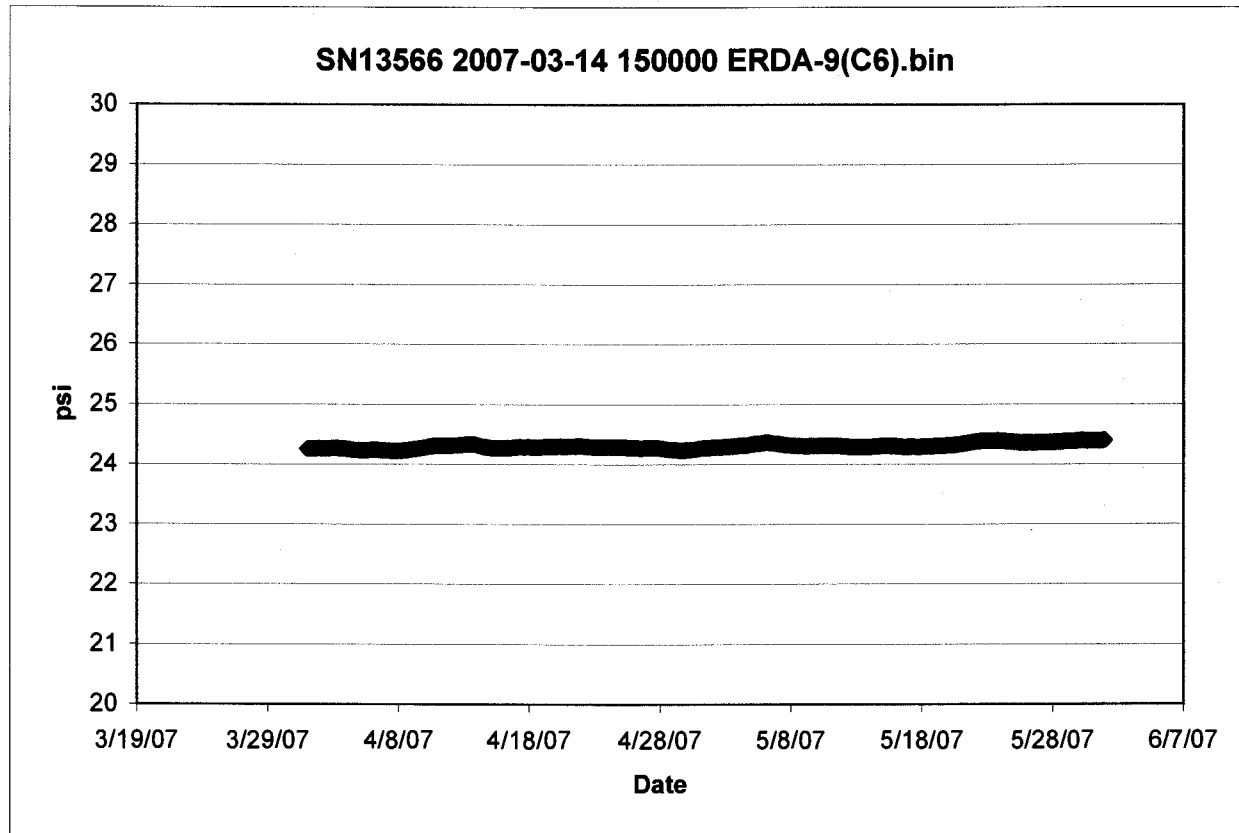
C-2737

Date/Time	PSI	DTW	DTW Source	Troll Depth	Baro Pressure	Calc Dens	Average
5/9/2007 14:20	148.331	381.55	WRES	690.5	13.032	1.0102	1.0103
5/21/2007 9:13	148.374	381.23	SNL	690.5	12.955	1.0101	
6/13/2007 13:47	148.416	381.35	WRES	690.5	12.985	1.0106	
6/18/2007 8:06	148.423	381.12	SNL	690.5	12.936	1.0102	



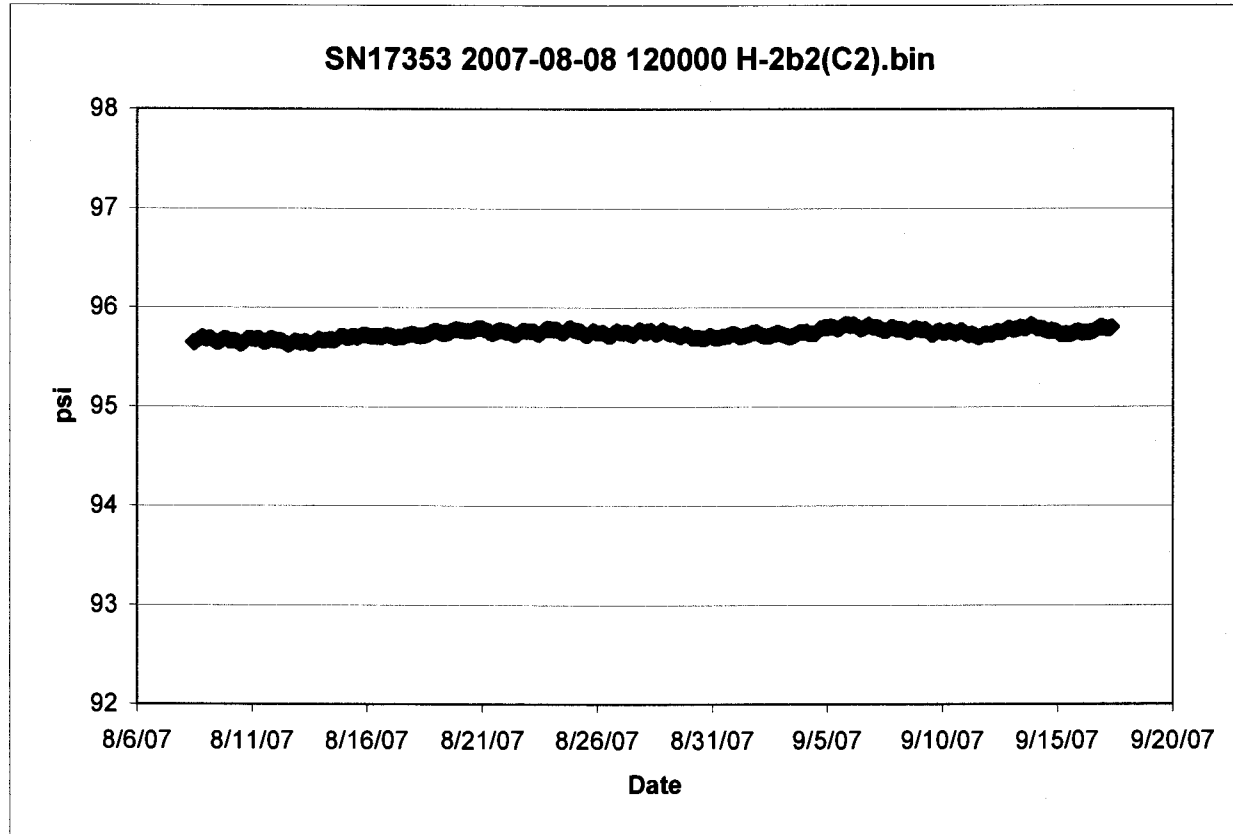
ERDA-9

Date/Time	PSI	DTW	DTW Source	Troll Depth	Calc Dens	Average
4/11/2007 9:34	24.312	397.25	WRES	450.8	1.0473	1.0472
4/18/2007 8:29	24.286	397.22	SNL	450.8	1.0456	
5/9/2007 11:15	24.305	397.31	WRES	450.8	1.0482	
5/21/2007 9:06	24.349	397.18	SNL	450.8	1.0475	



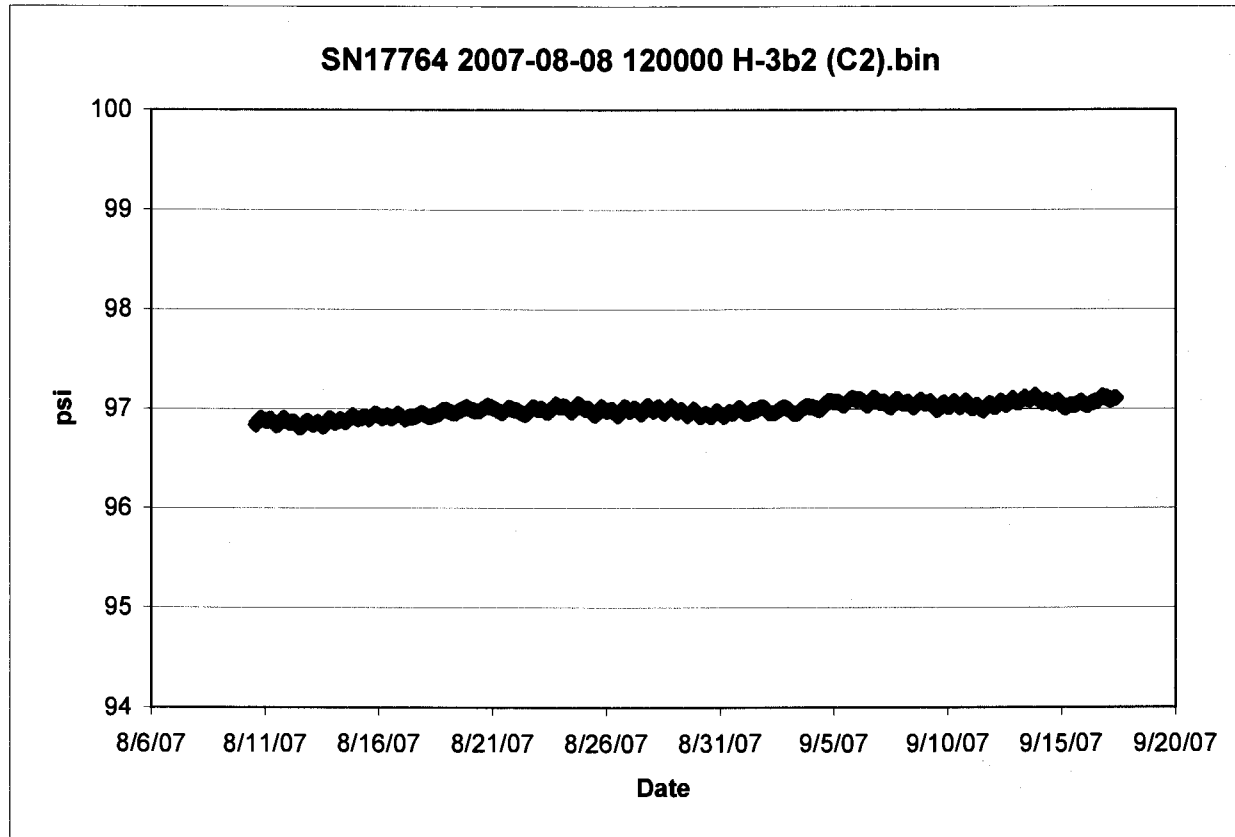
H-2b2

Date/Time	PSI	DTW	DTW Source	Troll Depth	Calc Dens	Average
8/14/2007 10:05	95.67	332.36	WRES	550.1	1.0136	1.0139
8/27/2007 9:03	95.735	332.35	SNL	550.1	1.0142	
9/17/2007 8:48	95.801	332.17	SNL	550.1	1.0141	



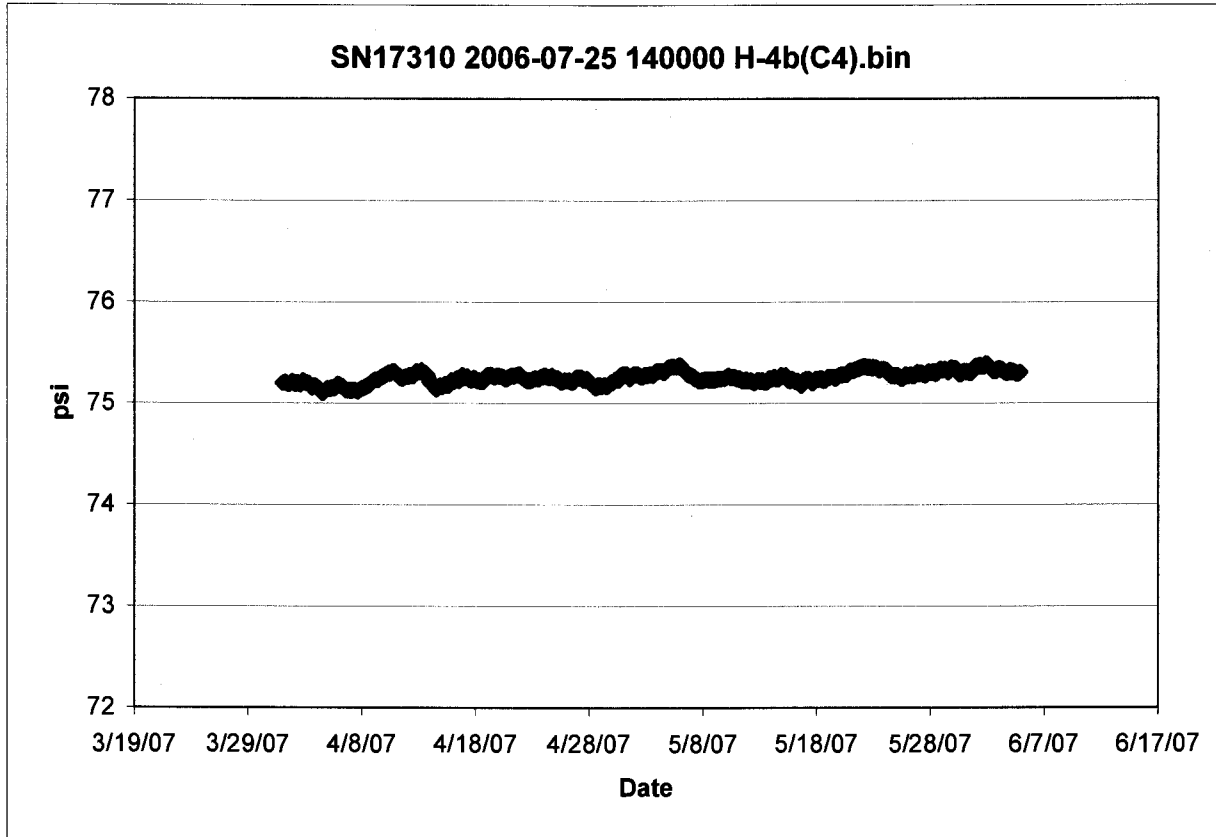
H-3b2

Date/Time	PSI	DTW	DTW Source	Troll Depth	Calc Dens	Average
8/14/2007 12:25	96.867	388.17	WRES	602.7	1.0416	
8/27/2007 9:14	96.975	388.16	SNL	602.7	1.0427	1.0424
9/17/2007 9:01	97.106	387.89	SNL	602.7	1.0428	



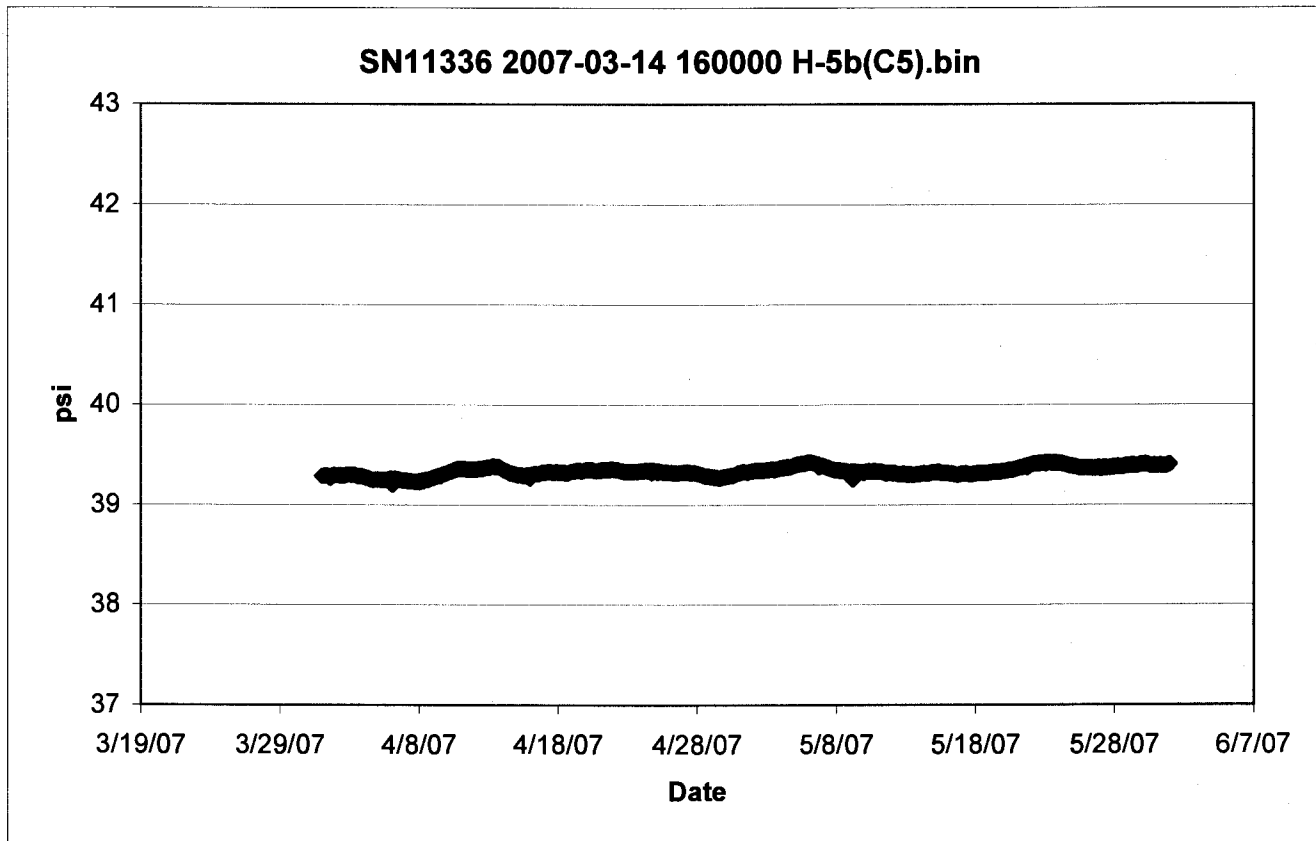
H-4b

Date/Time	PSI	DTW	DTW Source	Troll Depth	Calc Dens	Average
4/10/2007 13:33	75.297	329.62	WRES	500.8	1.0147	1.0148
4/19/2007 11:15	75.266	329.71	SNL	500.8	1.0148	
5/9/2007 10:15	75.236	329.81	WRES	500.8	1.0150	
5/23/2007 7:53	75.334	329.54	SNL	500.8	1.0147	



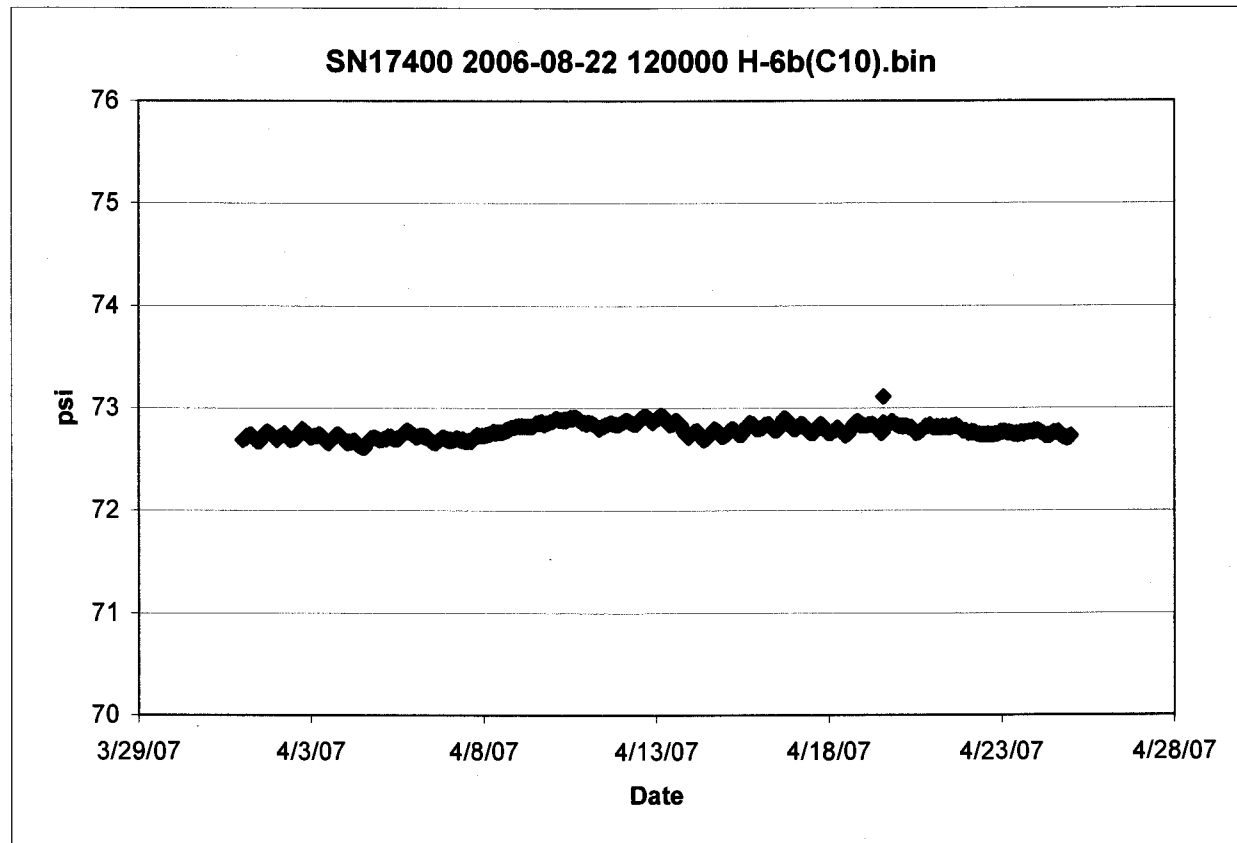
H-5b

Date/Time	PSI	DTW	DTW Source	Troll Depth	Calc Dens	Average
4/10/2007 10:31	39.348	467.60	WRES	550.8	1.0910	1.0908
4/18/2007 10:56	39.323	467.61	SNL	550.8	1.0904	
5/10/2007 7:44	39.337	467.64	WRES	550.8	1.0912	
5/24/2007 7:40	39.41	467.45	SNL	550.8	1.0907	



H-6b

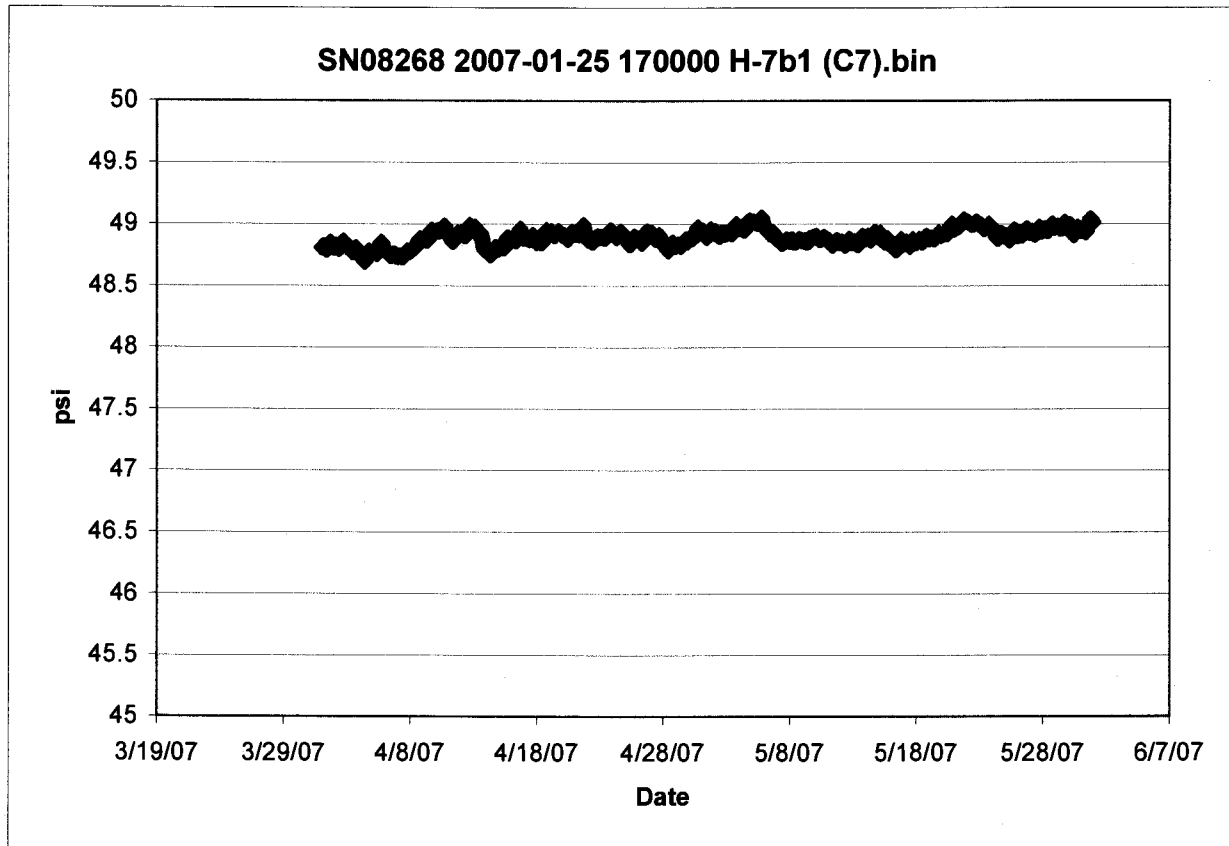
Date/Time	PSI	DTW	DTW Source	Troll Depth	Calc Dens	Average
4/9/2007 13:33	72.86	288.13	WRES	450.8	1.0332	1.0336
4/19/2007 13:26	72.86	288.26	SNL	450.8	1.0340	





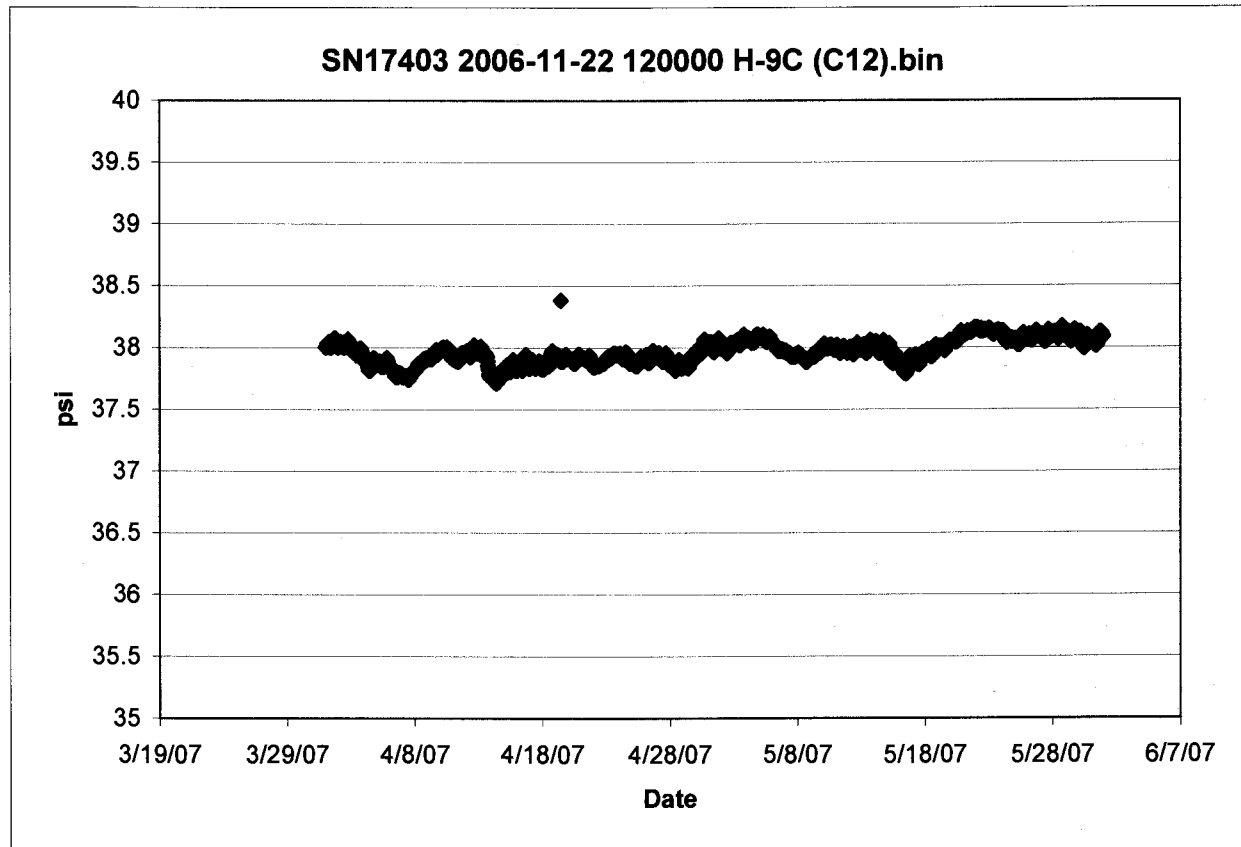
H-7b1

Date/Time	PSI	DTW	DTW Source	Troll Depth	Calc Dens	Average
4/9/2007 12:20	48.907	163.25	WRES	275.8	1.0024	1.0021
4/19/2007 9:41	48.907	163.2	SNL	275.8	1.0019	
5/7/2007 9:20	48.845	163.35	WRES	275.8	1.0020	
5/21/2007 13:24	49.002	163.01	SNL	275.8	1.0022	



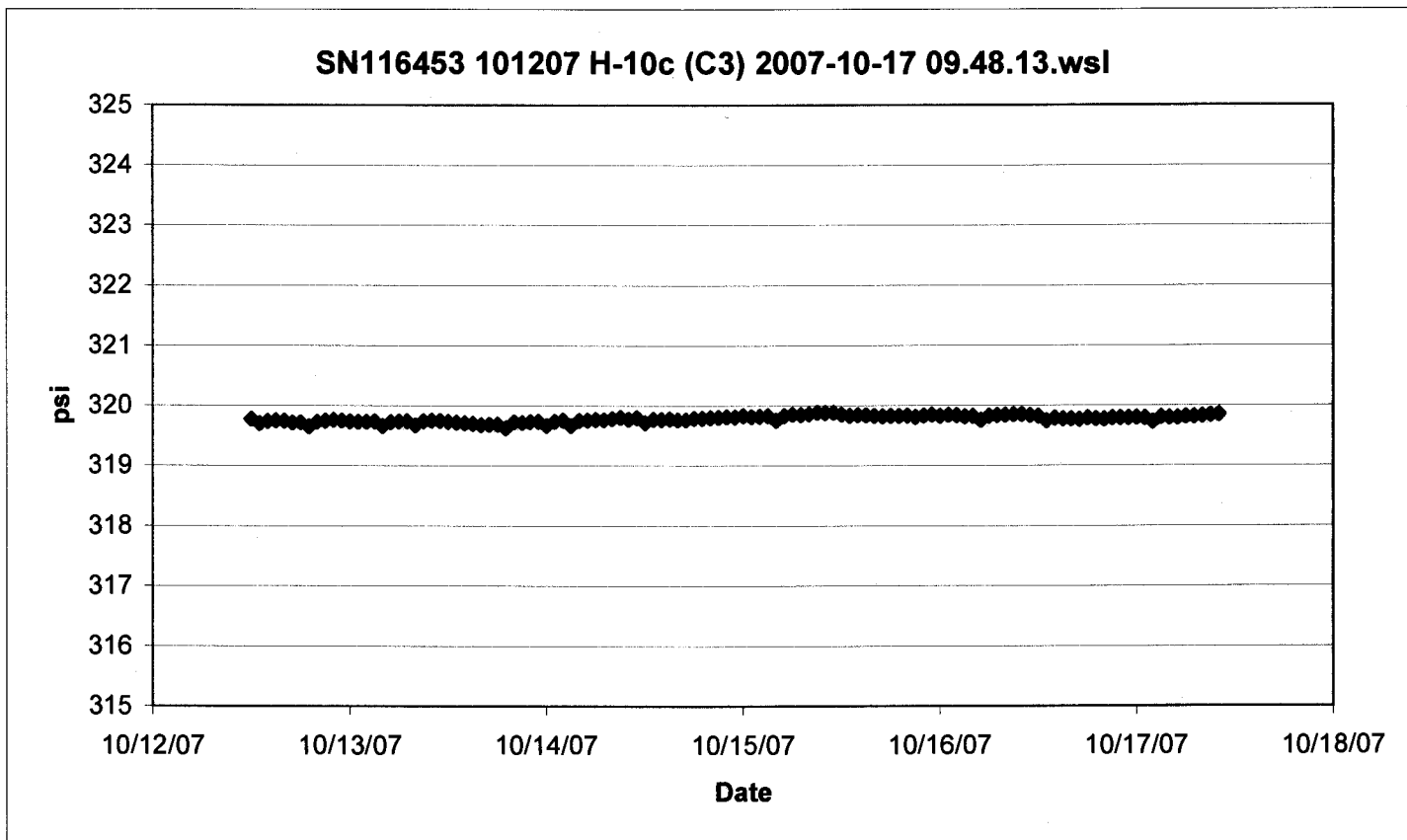
H-9c

Date/Time	PSI	DTW	DTW Source	Troll Depth	Calc Dens	Average
4/10/2007 12:22	38.003	412.66	WRES	500.1	1.0026	
4/19/2007 10:21	37.891	412.83	SNL	500.1	1.0016	1.0014
5/8/2007 10:30	37.919	412.63	WRES	500.1	1.0000	



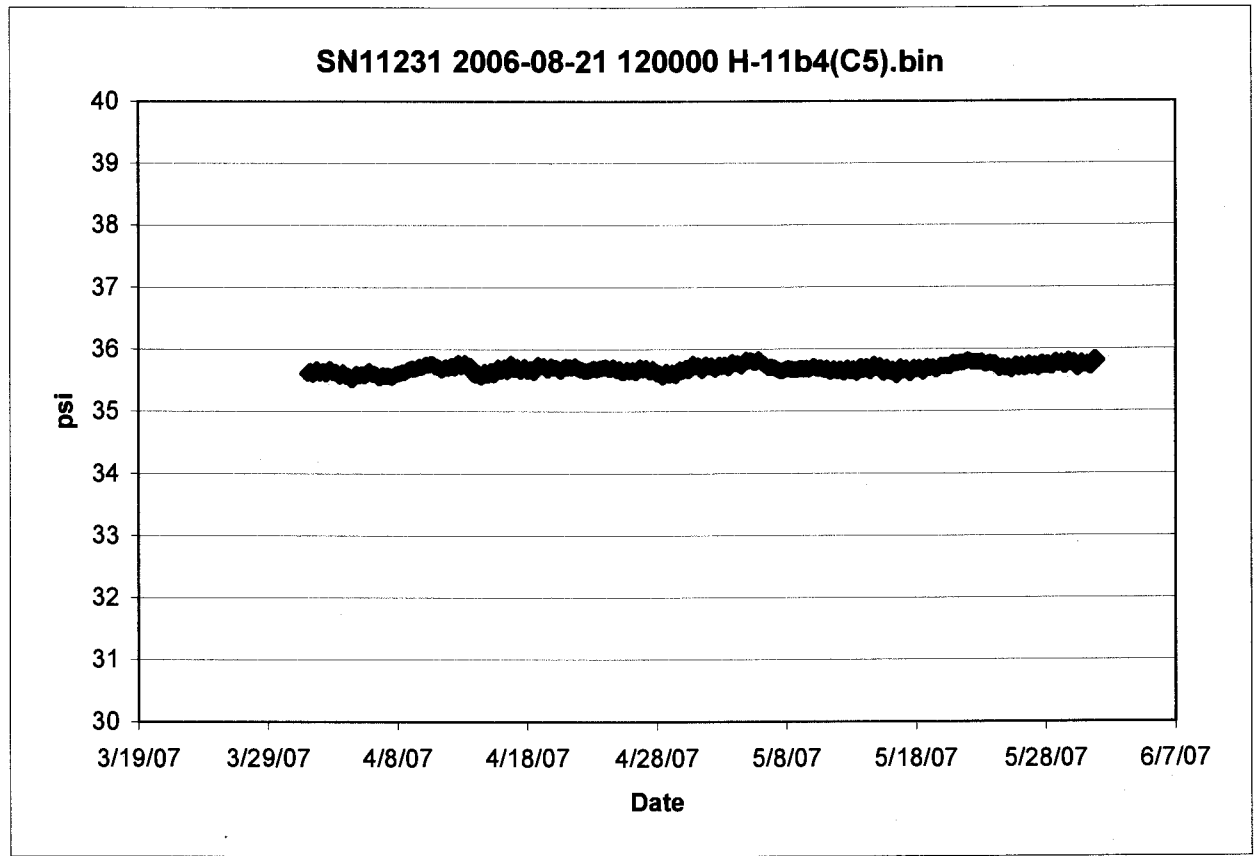
H-10c

Date/Time	PSI	DTW	DTW Source	Troll Depth	Baro PSI	Calc Dens	Average
10/16/2007 7:59	319.84	663.46	WRES	1365.8	12.931	1.0080	1.0081
10/17/2007 9:44	319.848	663.41	SNL	1365.8	12.863	1.0082	



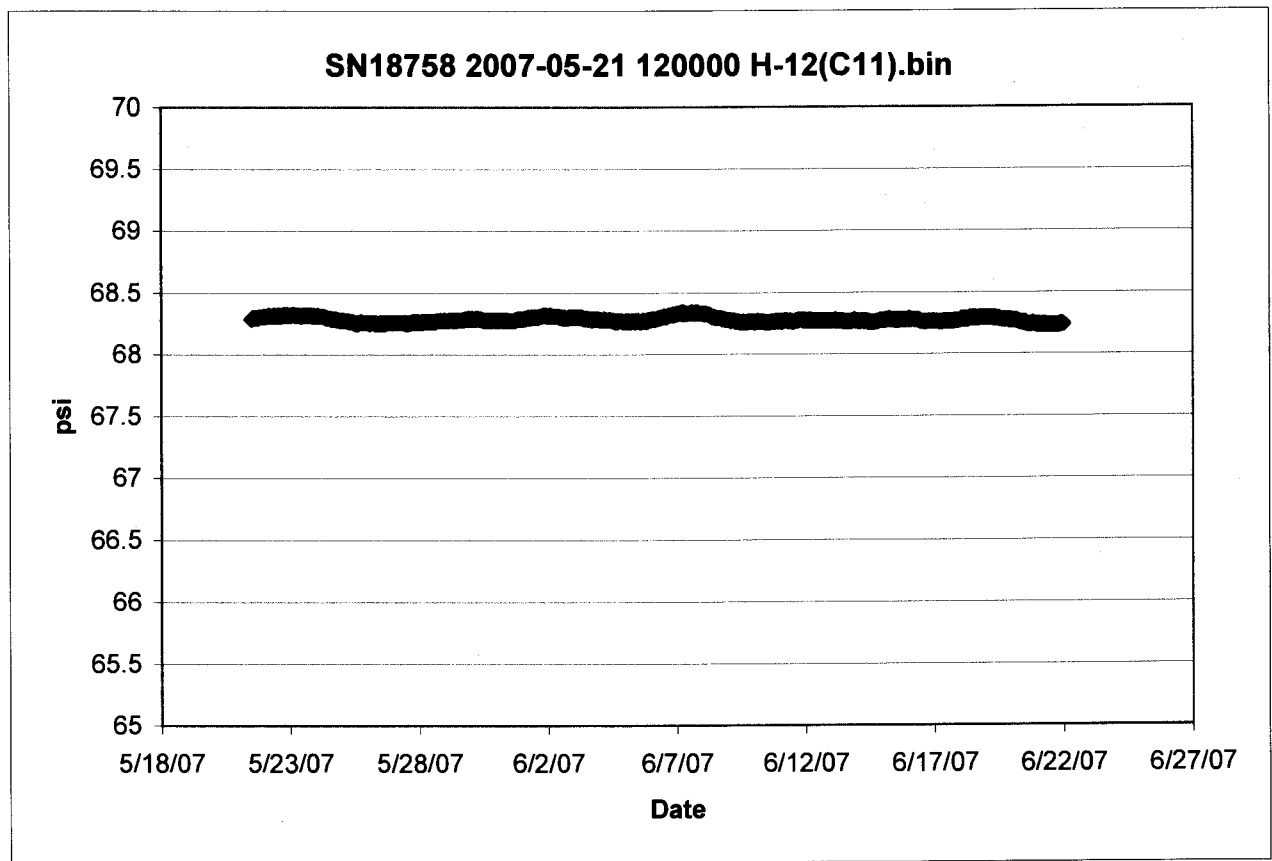
H-11b4

Date/Time	PSI	DTW	DTW Source	Troll Depth	Calc Dens	Average
4/9/2007 9:12	35.679	423.94	WRES	500.8	1.0708	1.0703
4/18/2007 9:16	35.647	423.97	SNL	500.8	1.0703	
5/7/2007 6:57	35.665	423.93	WRES	500.8	1.0703	
5/21/2007 9:57	35.78	423.65	SNL	500.8	1.0698	

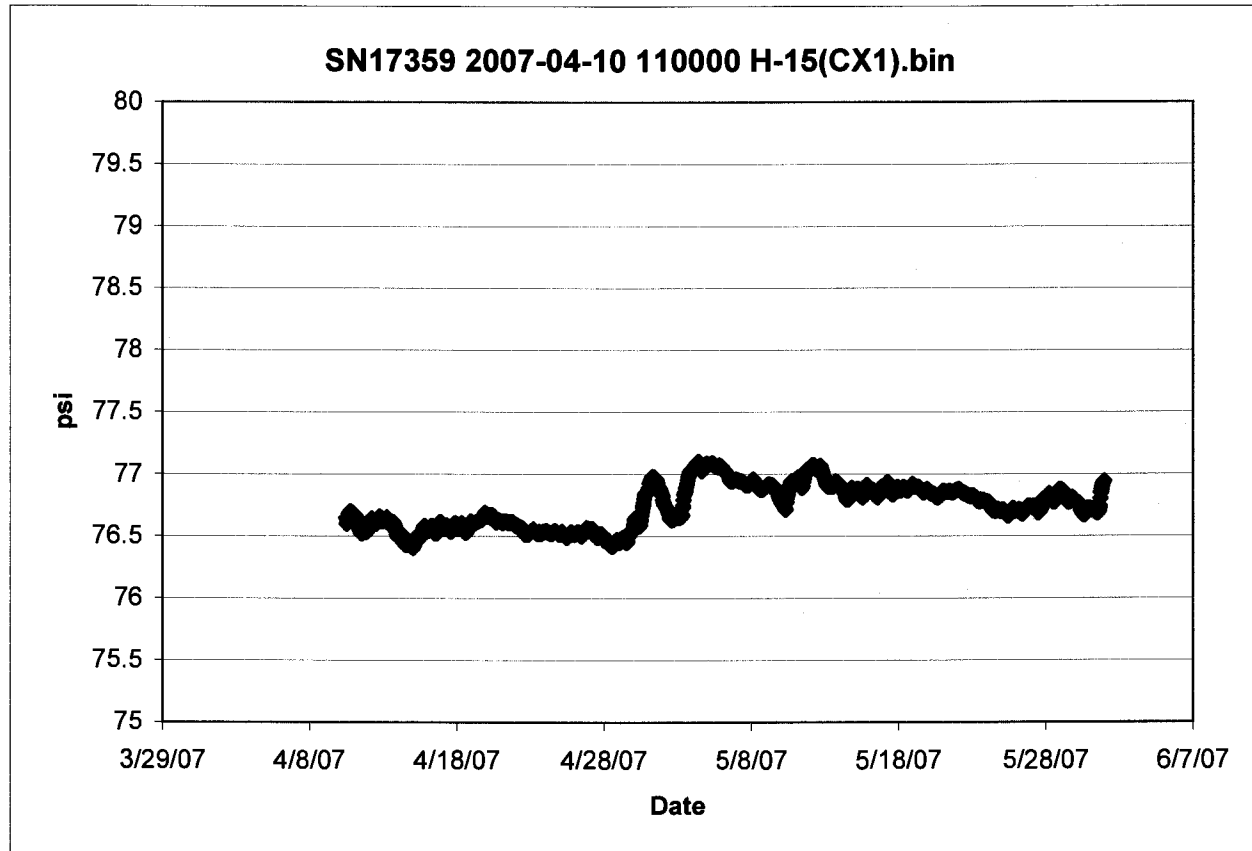


H-12

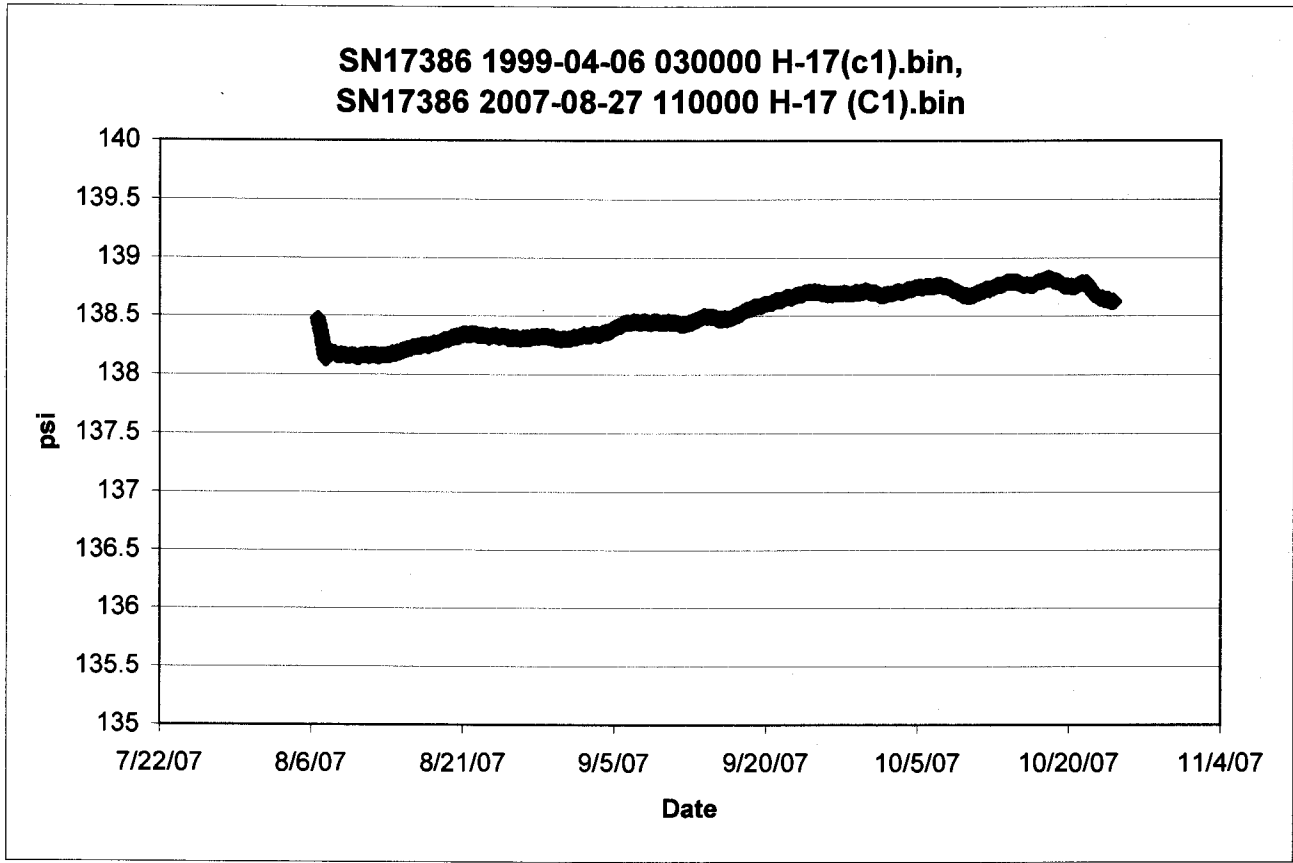
Date/Time	PSI	DTW	DTW Source	Troll Depth	Calc Dens	Average
5/21/2007 10:40	68.287	457.21	SNL	600.8	1.0970	
6/12/2007 11:31	68.271	457.23	WRES	600.8	1.0969	1.0970
6/18/2007 10:05	68.286	457.21	SNL	600.8	1.0970	



Date/Time	PSI	DTW	DTW Source	Troll Depth	Calc Dens	Average
4/11/2007 9:55	76.542	483.35	WRES	650.8	1.0544	1.0533
4/18/2007 8:17	76.598	483.20	SNL	650.8	1.0543	
5/9/2007 11:25	76.894	482.25	WRES	650.8	1.0524	
5/24/2007 8:17	76.723	482.58	SNL	650.8	1.0521	



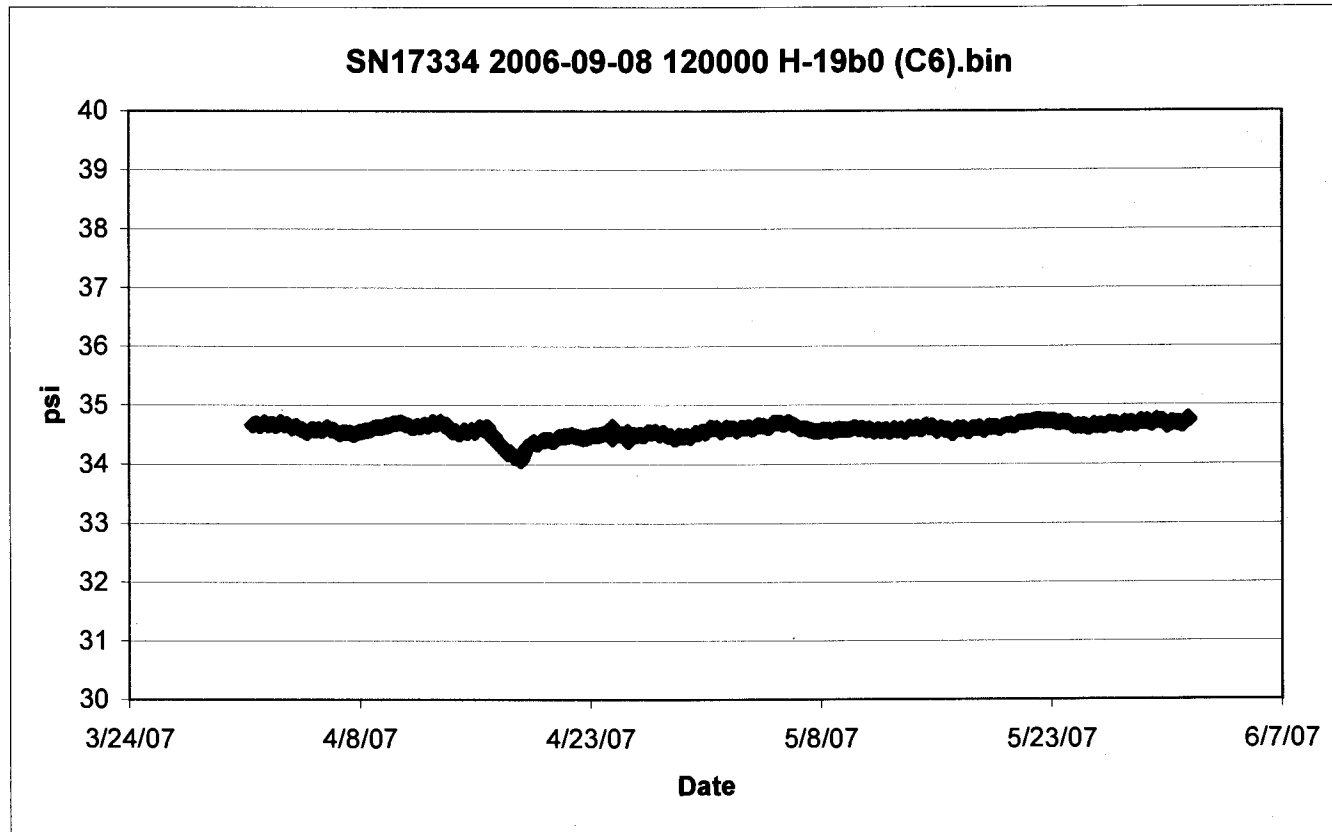
Date/Time	PSI	DTW	DTW Source	Troll Depth	Calc Dens	Average
8/6/2007 11:42	138.473	419.13	SNL	700.8	1.1341	1.1325
8/13/2007 9:30	138.159	419.07	WRES	700.8	1.1312	
8/27/2007 10:00	138.313	419.01	SNL	700.8	1.1323	
9/18/2007 12:20	138.562	418.56	WRES	700.8	1.1325	



\*the date/time were incorrect in the first data file, the actual date/time were surmised from the test start time

H-19b0

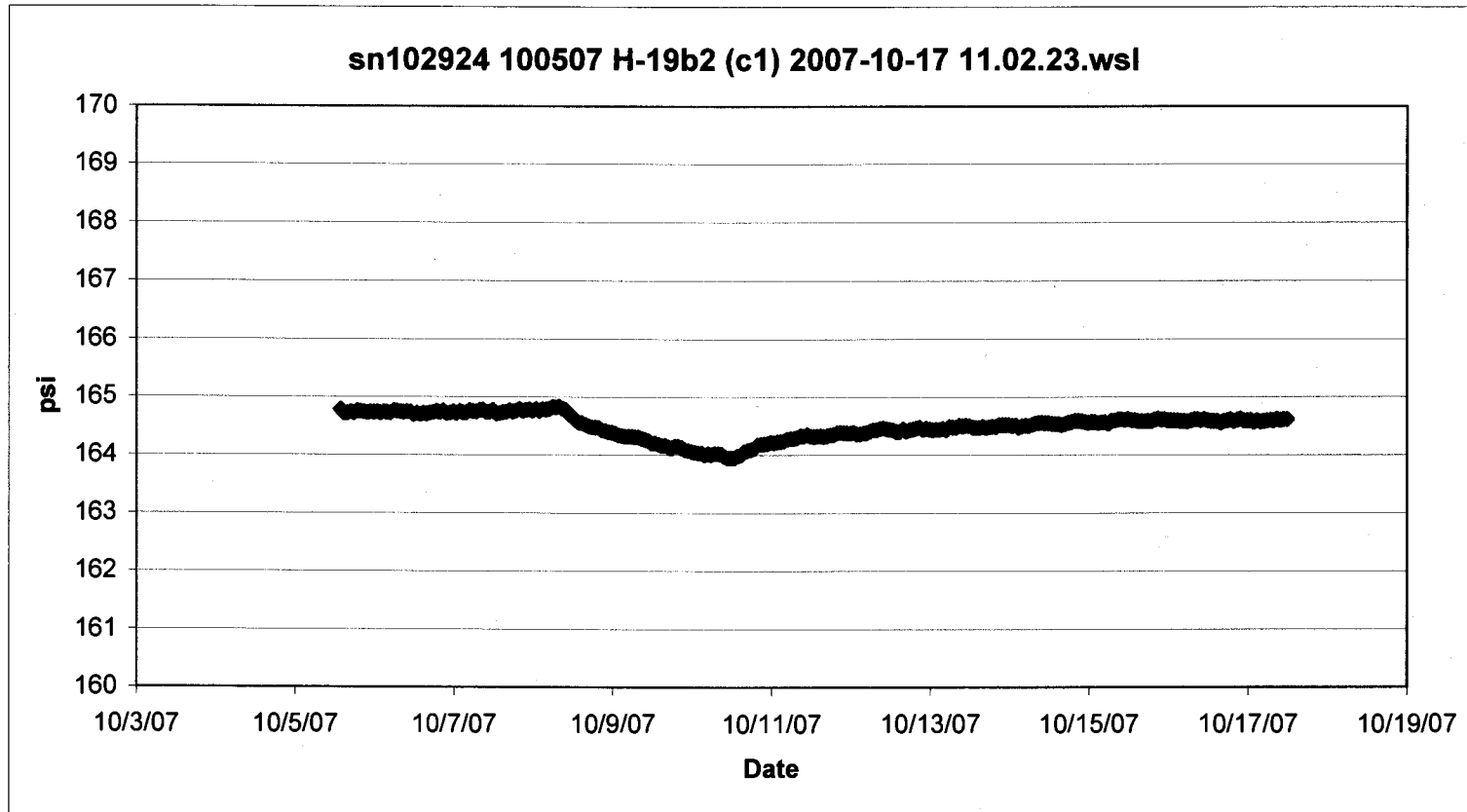
Date/Time	PSI	DTW	DTW Source	Troll Depth	Calc Dens	Average
4/11/2007 9:05	34.626	426.03	WRES	500.8	1.0683	1.0682
4/18/2007 8:38	34.087	427.20	SNL	500.8	1.0684	
5/9/2007 10:55	34.58	426.11	WRES	500.8	1.0680	
5/21/2007 9:26	34.715	425.82	SNL	500.8	1.0680	





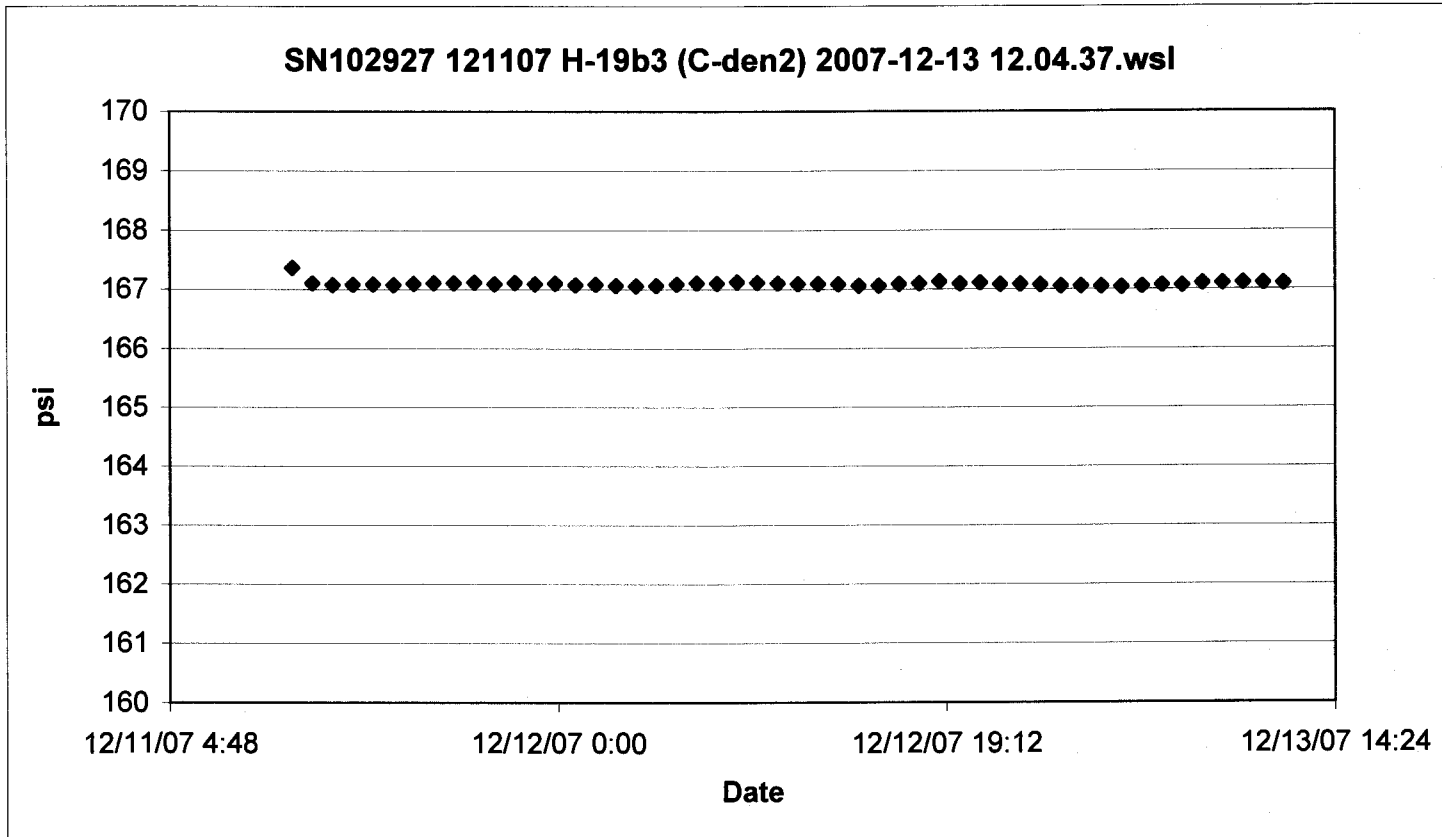
H-19b2

Date/Time	PSI	DTW	DTW Source	Troll Depth	Baro psi	Calc Dens	Average
10/5/2007 13:03	164.64	426.56	SNL	753.8	12.93	1.0694	1.0707
10/9/2007 11:08	164.207	428.25	SNL	753.8	13.119	1.0706	
10/12/2007 12:05	164.429	427.44	SNL	753.8	12.925	1.0709	
10/17/2007 10:58	164.616	426.98	SNL	753.8	12.852	1.0712	
10/24/2007 9:35	164.829	427.26	SNL	753.8	13.171	1.0714	



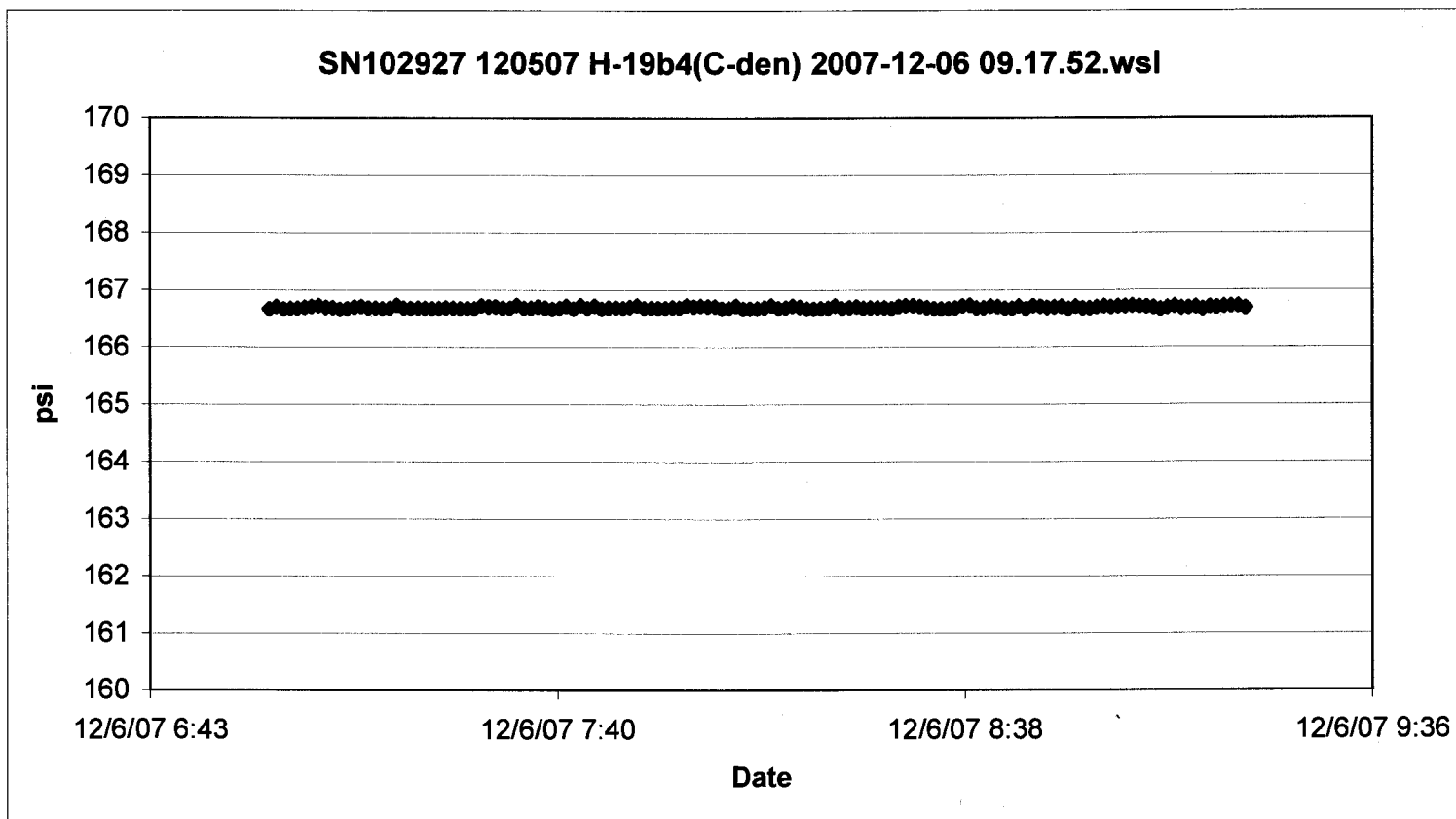
H-19b3

Date/Time	PSI	DTW	DTW Source	Troll Depth	Baro Pressure	Calc Dens	Average
12/11/2007 10:43	167.367	426.54	SNL	755.1	13.04	1.0835	1.0825
12/13/2007 12:00	167.102	426.59	SNL	755.1	13.083	1.0815	



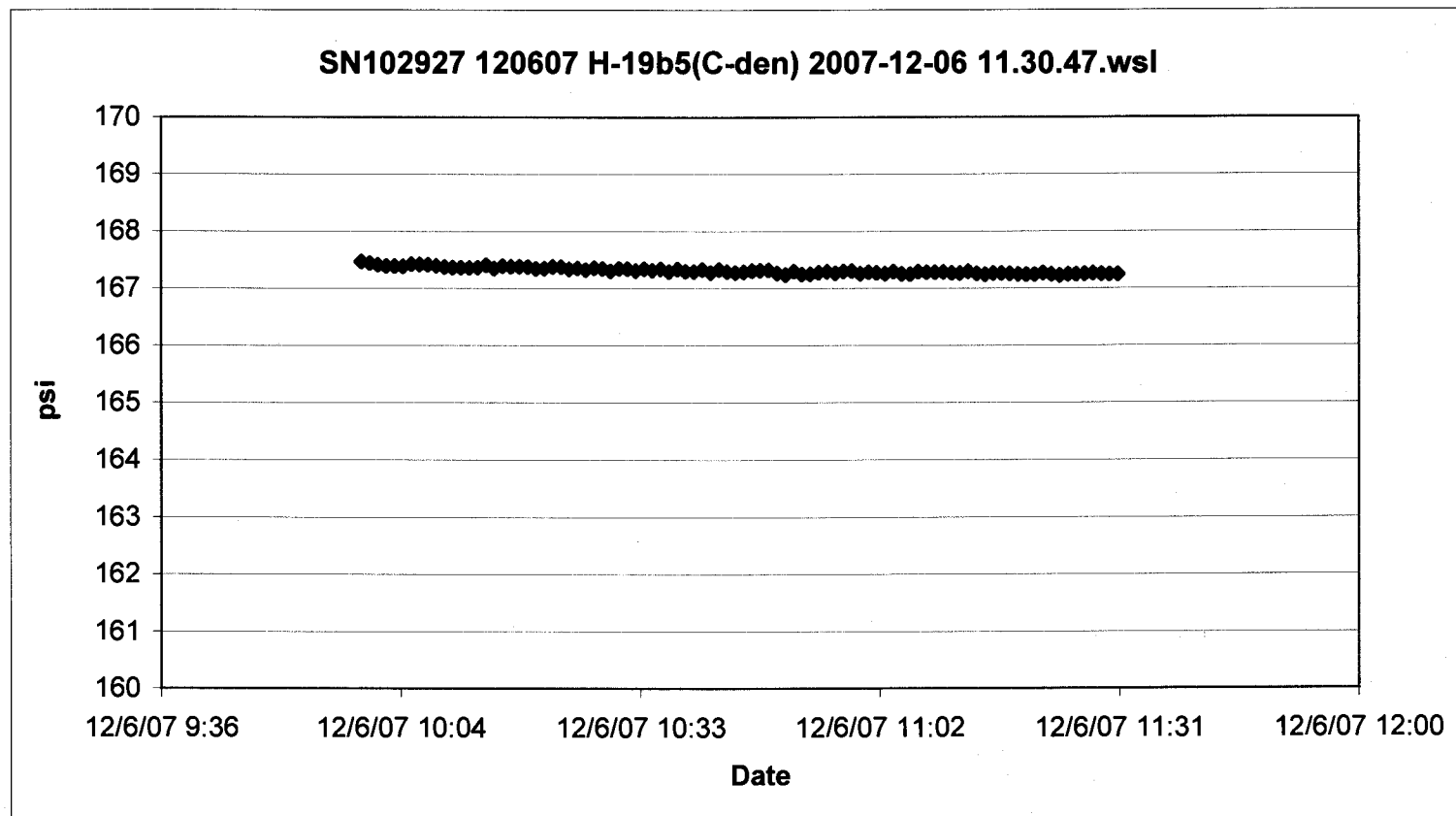
H-19b4

Date/Time	PSI	DTW	DTW Source	Troll Depth	Baro Pressure	Calc Dens	Average
12/6/2007 9:00	166.715	425.71	SNL	755.1	13.107	1.0758	1.0757
12/6/2007 9:05	166.699	425.71	SNL	755.1	13.071	1.0759	
12/6/2007 9:10	166.693	425.71	SNL	755.1	13.112	1.0756	
12/6/2007 9:12	166.67	425.71	SNL	755.1	13.096	1.0755	
12/6/2007 9:14	166.697	425.71	SNL	755.1	13.109	1.0756	
12/6/2007 9:16	166.721	425.71	SNL	755.1	13.102	1.0758	

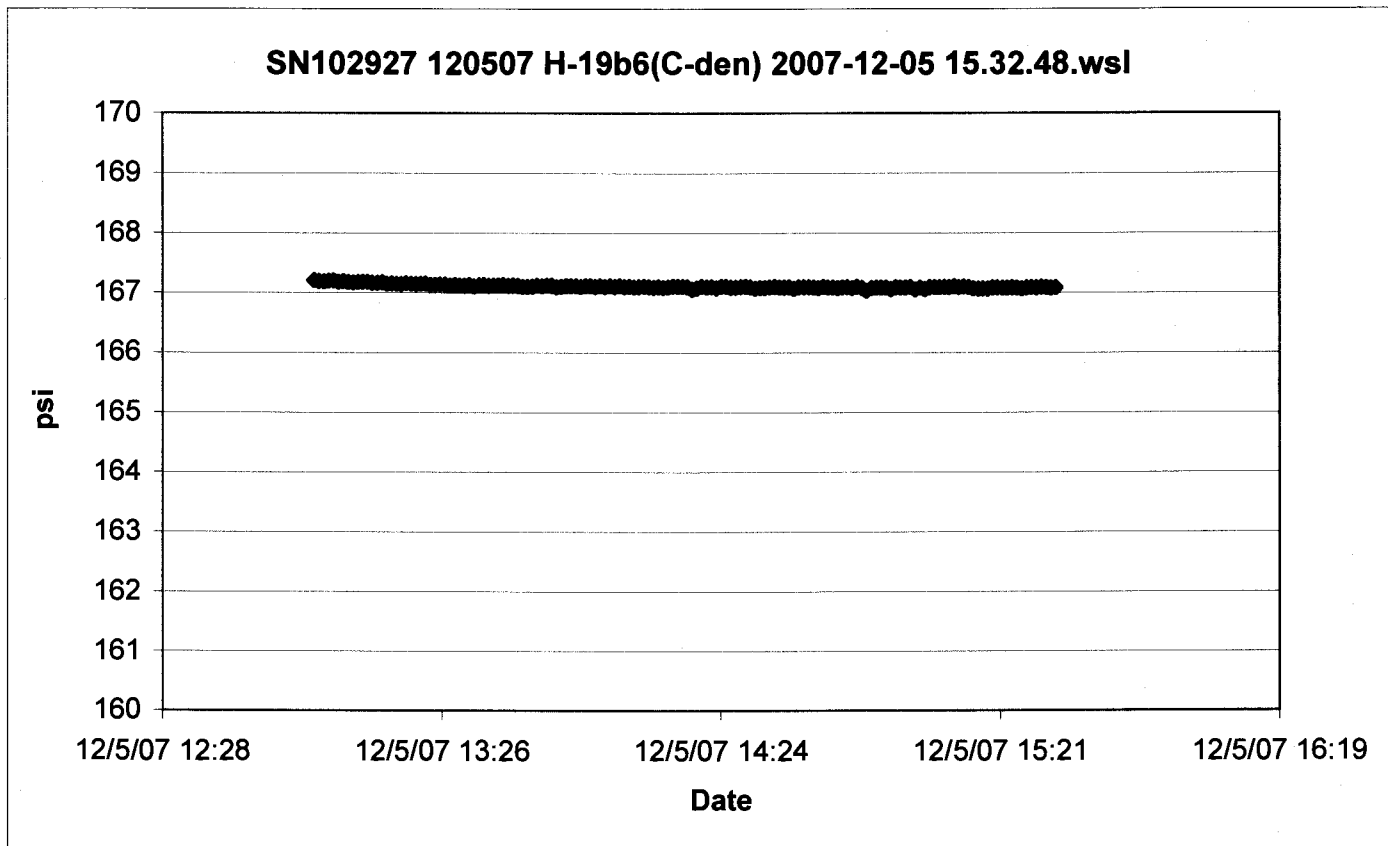


H-19b5

Date/Time	PSI	DTW	DTW Source	Troll Depth	Baro Pressure	Calc Dens	Average
12/6/2007 11:15	167.239	425.65	SNL	755.1	13.07	1.0795	1.0796
12/6/2007 11:20	167.242	425.66	SNL	755.1	13.076	1.0795	
12/6/2007 11:22	167.267	425.66	SNL	755.1	13.064	1.0798	
12/6/2007 11:24	167.224	425.66	SNL	755.1	13.072	1.0794	
12/6/2007 11:26	167.249	425.66	SNL	755.1	13.071	1.0796	
12/6/2007 11:28	167.264	425.67	SNL	755.1	13.065	1.0798	
12/6/2007 11:30	167.245	425.66	SNL	755.1	13.069	1.0796	

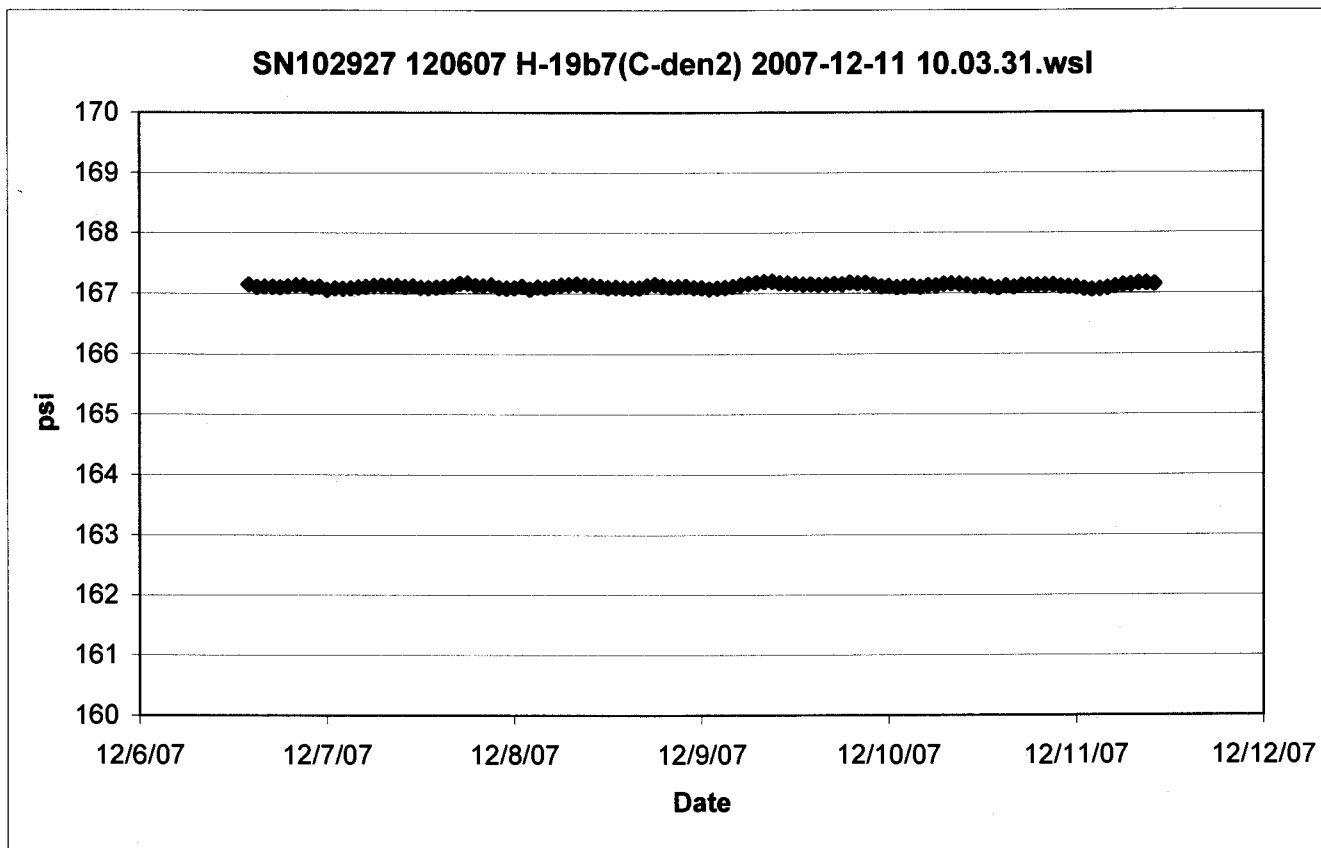


Date/Time	PSI	DTW	DTW Source	Troll Depth	Baro Pressure	Calc Dens	Average
12/5/2007 15:15	167.093	426.34	SNL	754.4	13.101	1.0828	1.0827
12/5/2007 15:20	167.086	426.33	SNL	754.4	13.114	1.0826	
12/5/2007 15:22	167.08	426.34	SNL	754.4	13.115	1.0826	
12/5/2007 15:24	167.087	426.34	SNL	754.4	13.118	1.0827	
12/5/2007 15:26	167.069	426.34	SNL	754.4	13.11	1.0826	
12/5/2007 15:28	167.092	426.34	SNL	754.4	13.103	1.0828	
12/5/2007 15:30	167.095	426.35	SNL	754.4	13.119	1.0827	



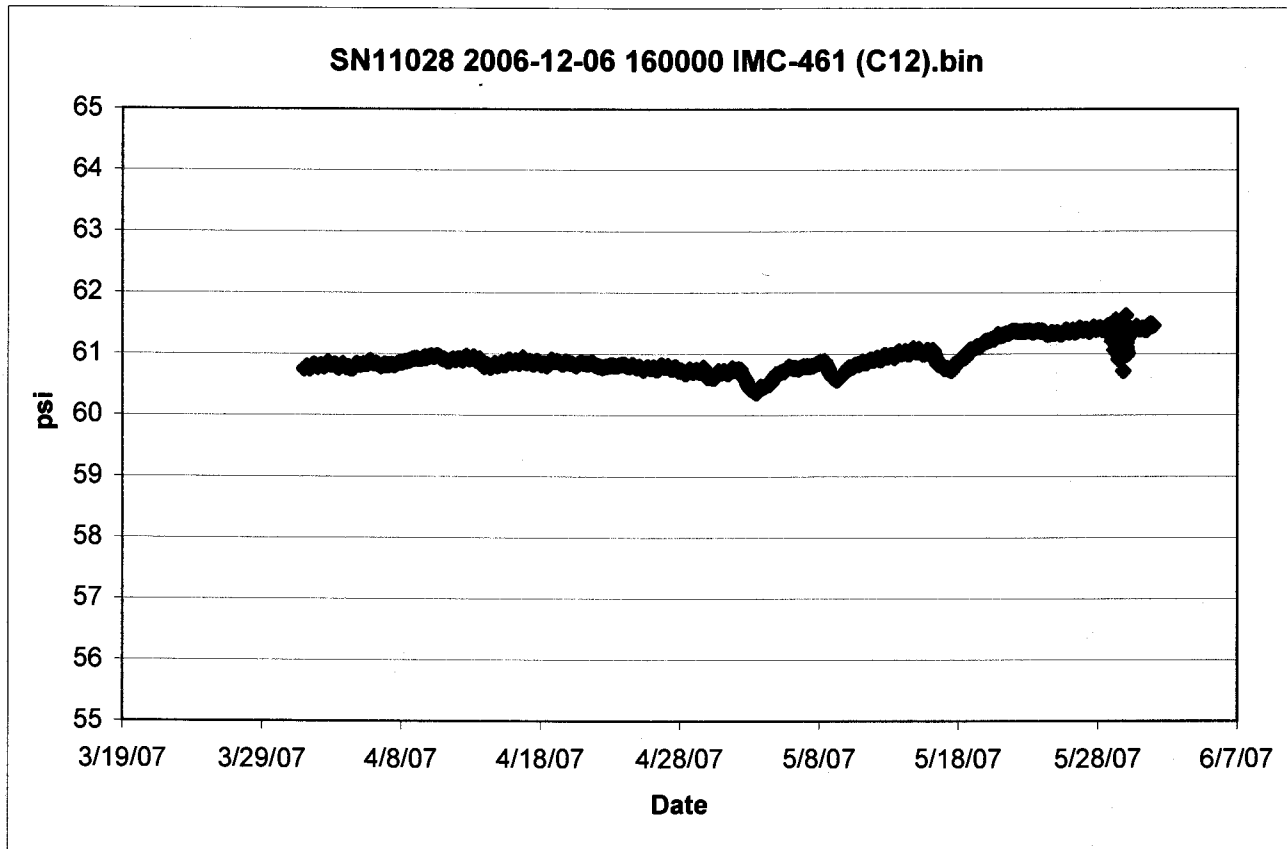
H-19b7

Date/Time	PSI	DTW	DTW Source	Troll Depth	Baro Pressure	Calc Dens	Average
12/6/2007 14:00	167.151	426.2	SNL	755.1	13.024	1.0810	1.0813
12/11/2007 10:00	167.157	426.44	SNL	755.1	13.043	1.0817	



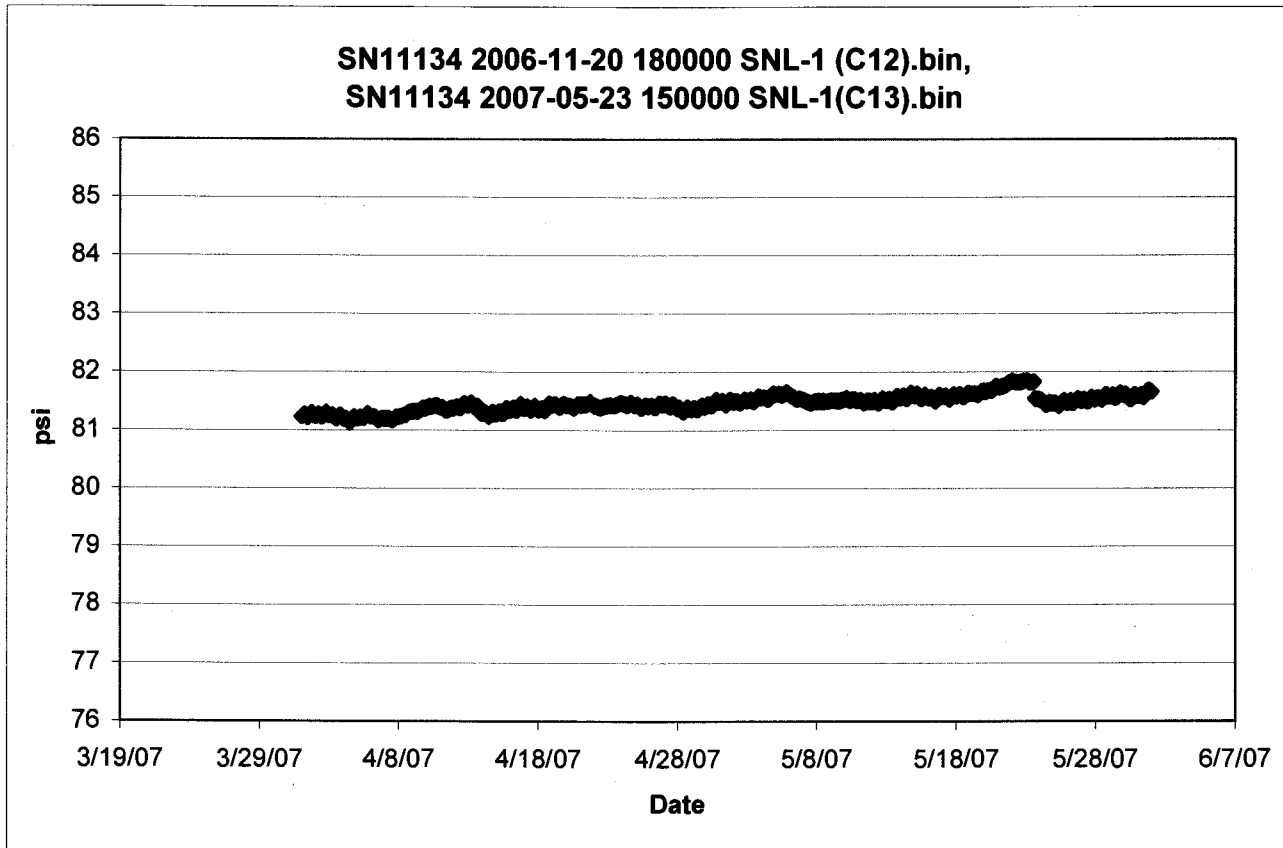
IMC-461

Date/Time	PSI	DTW	DTW Source	Troll Depth	Calc Dens	Average
4/9/2007 14:02	60.949	236.22	WRES	376.1	1.0051	1.0051
4/19/2007 13:03	60.83	236.44	SNL	376.1	1.0047	
5/7/2007 11:20	60.802	236.58	WRES	376.1	1.0053	
5/21/2007 14:15	61.344	235.34	SNL	376.1	1.0053	



SNL-1

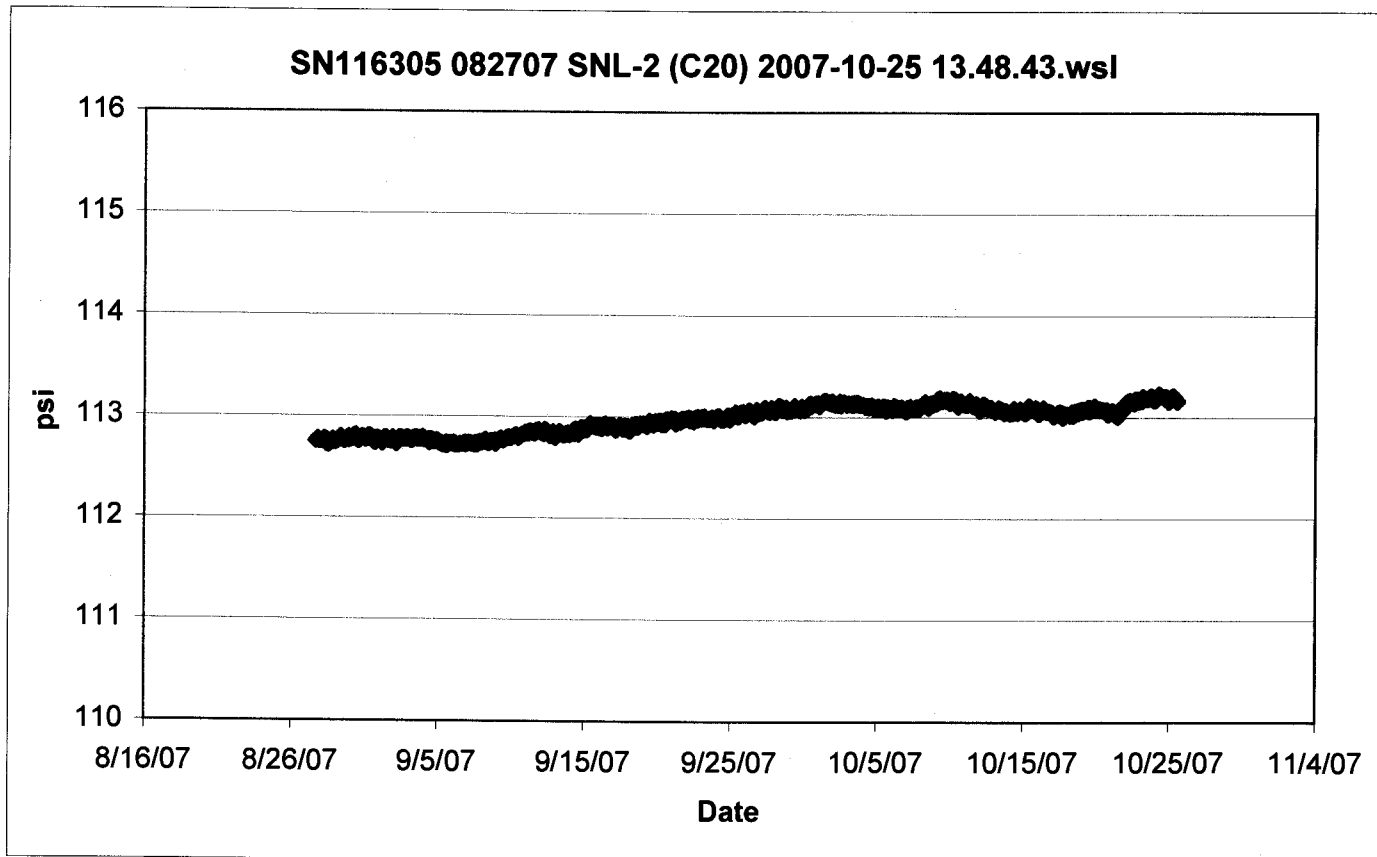
Date/Time	PSI	DTW	DTW Source	Troll Depth	Calc Dens	Average
4/10/2007 8:20	81.409	428.91	WRES	610.8	1.0325	1.0331
4/18/2007 11:59	81.345	429.02	SNL	610.8	1.0323	
5/8/2007 6:20	81.501	428.84	WRES	610.8	1.0332	
5/23/2007 13:18	81.834	428.30	SNL	610.8	1.0344	





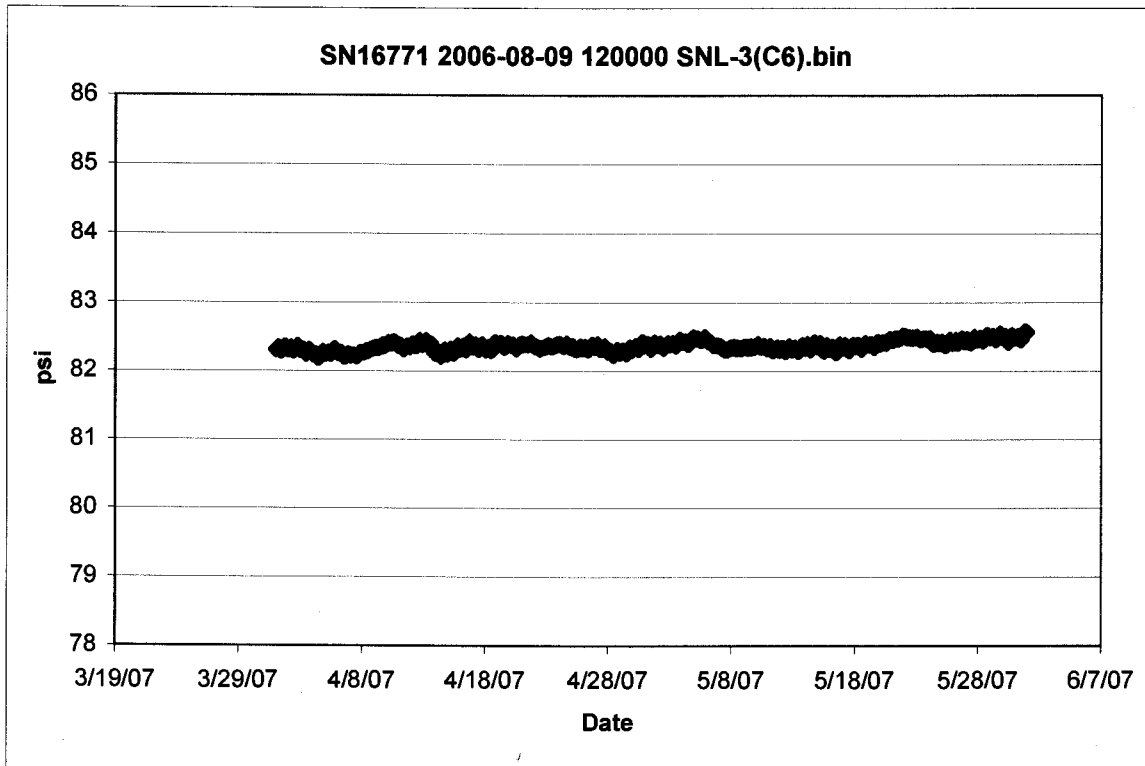
SNL-2

Date/Time	PSI	DTW	DTW Source	Troll Depth	Baro PSI	Calc Dens	Average
8/27/2007 14:22	112.747	248.33	SNL	475.8	12.975	1.0118	1.0118
9/17/2007 7:38	112.905	248	WRES	475.8	12.993	1.0118	



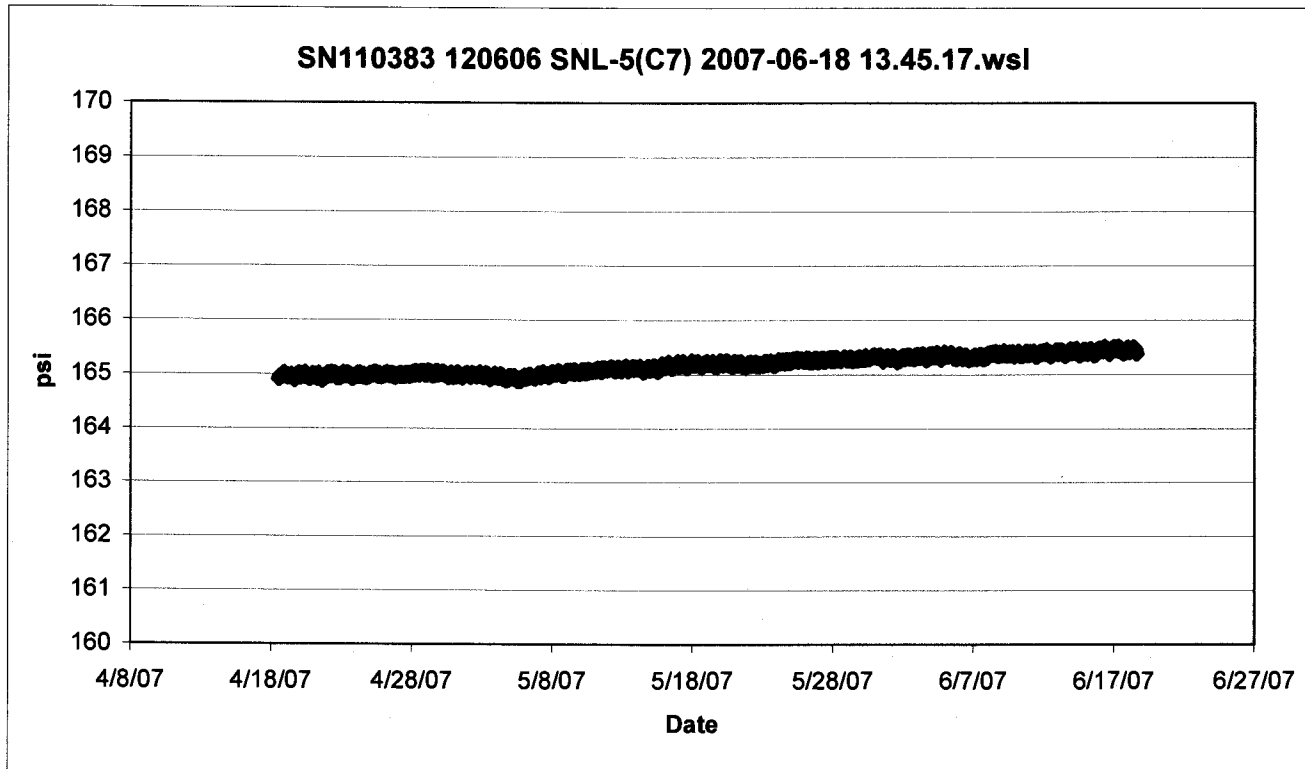
SNL-3

Date/Time	PSI	DTW	DTW Source	Troll Depth	Calc Dens	Average
4/10/2007 10:07	82.404	415.13	WRES	600.8	1.0238	1.0234
4/18/2007 12:15	82.304	415.29	SNL	600.8	1.0234	
5/8/2007 7:40	82.334	415.19	WRES	600.8	1.0233	
5/23/2007 12:51	82.48	414.81	SNL	600.8	1.0230	



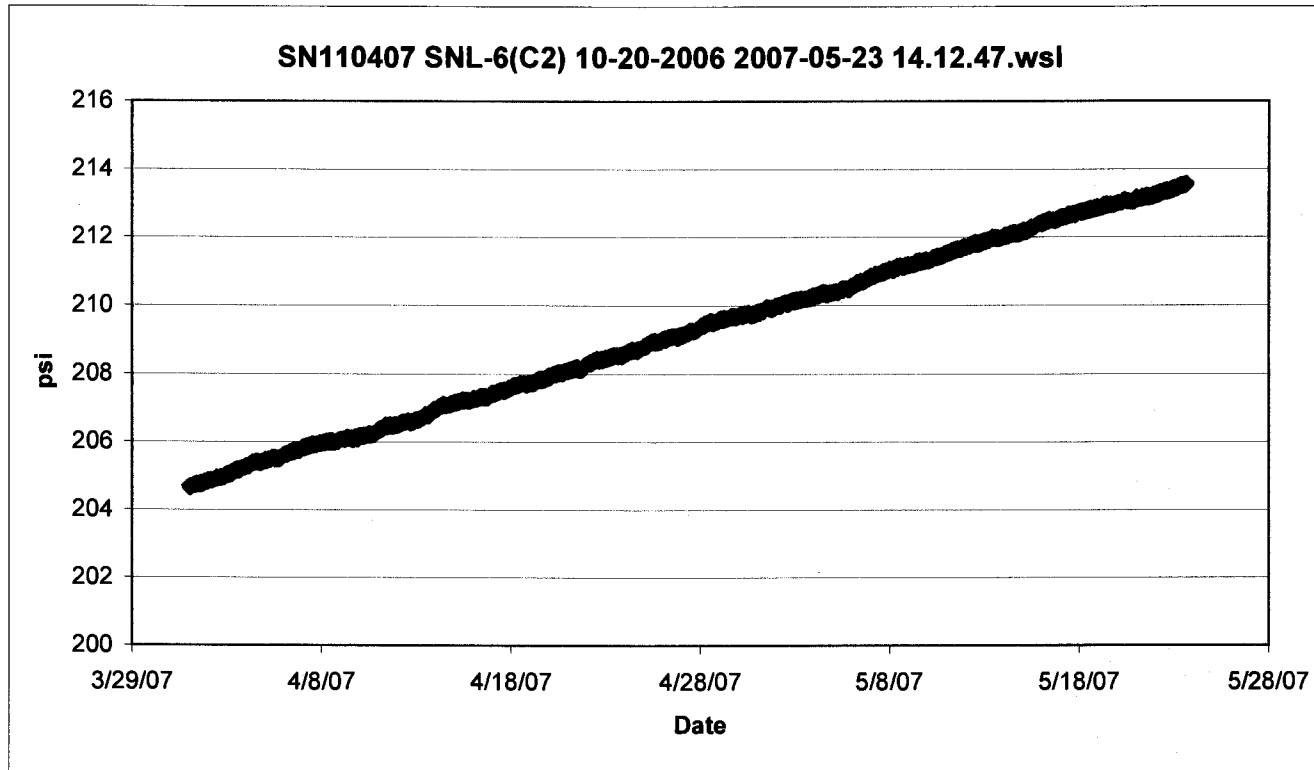
SNL-5

Date/Time	PSI	DTW	DTW Source	Troll Depth	Baro Pressure	Calc Dens	Average
4/18/2007 13:34	164.959	303.93	SNL	651.1	12.961	1.0100	1.0100
5/7/2007 15:20	165.003	304.05	WRES	651.1	13.019	1.0102	
5/23/2007 10:47	165.197	303.36	SNL	651.1	12.971	1.0098	
6/11/2007 9:27	165.349	303.13	WRES	651.1	12.98	1.0101	
6/18/2007 13:44	165.385	302.86	SNL	651.1	12.923	1.0099	



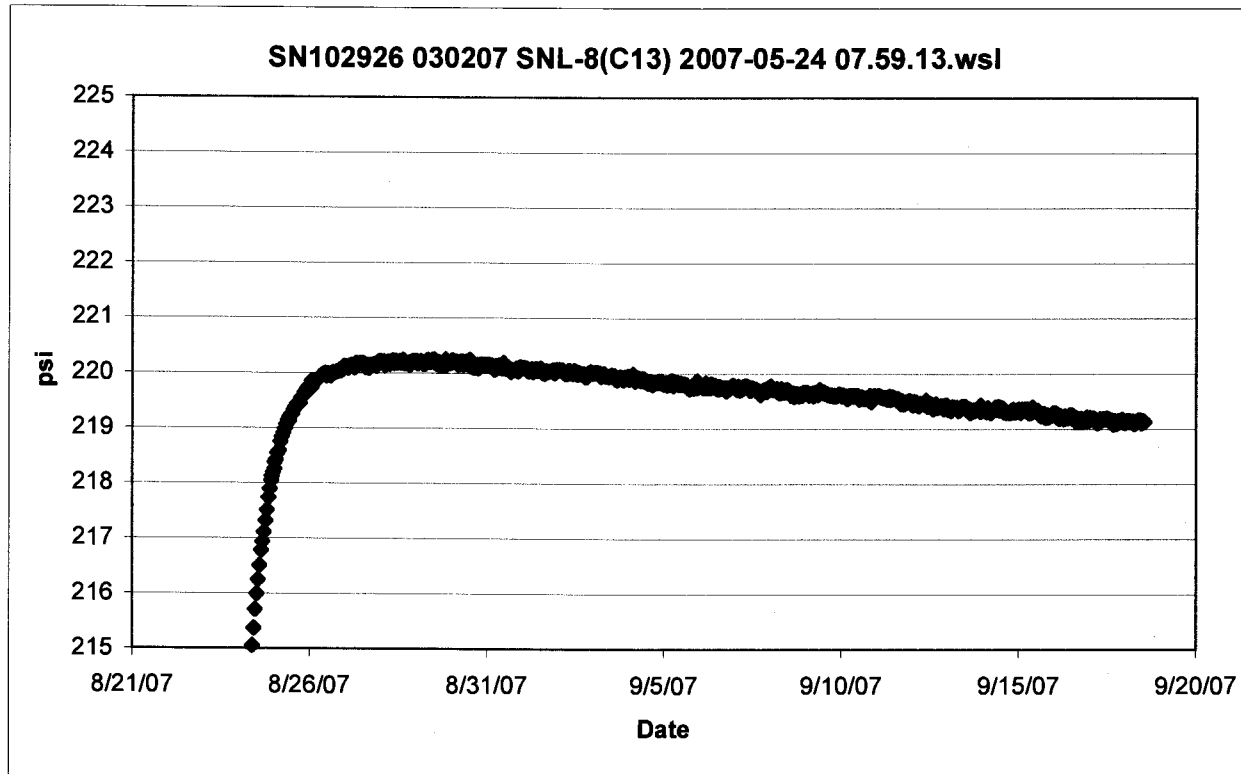
SNL-6

Date/Time	PSI	DTW	DTW Source	Troll Depth	Baro Pressure	Calc Dens	Average
4/10/2007 7:45	206.186	945.64	WRES	1303.7	12.877	1.2454	1.2456
4/18/2007 11:27	207.737	942.99	SNL	1303.7	12.987	1.2455	
5/10/2007 6:30	211.412	936.43	WRES	1303.7	13.029	1.2460	
5/23/2007 14:12	213.52	932.25	SNL	1303.7	12.943	1.2456	



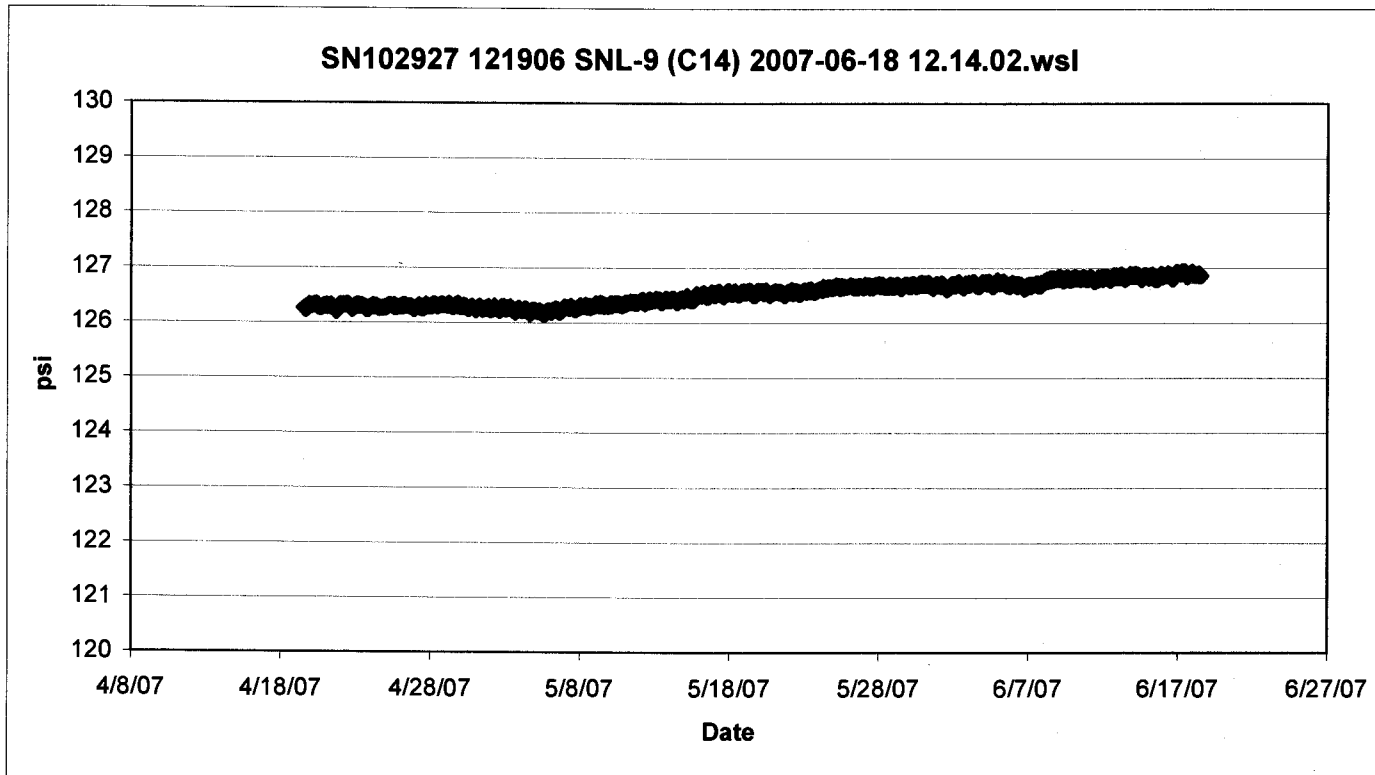
SNL-8

Date/Time	PSI	DTW	DTW Source	Troll Depth	Baro Pressure	Calc Dens	Average
8/28/2007 15:28	220.235	534.78	SNL	968.3	12.975	1.1029	1.1026
9/18/2007 8:00	219.144	536.95	WRES	968.3	13.007	1.1024	



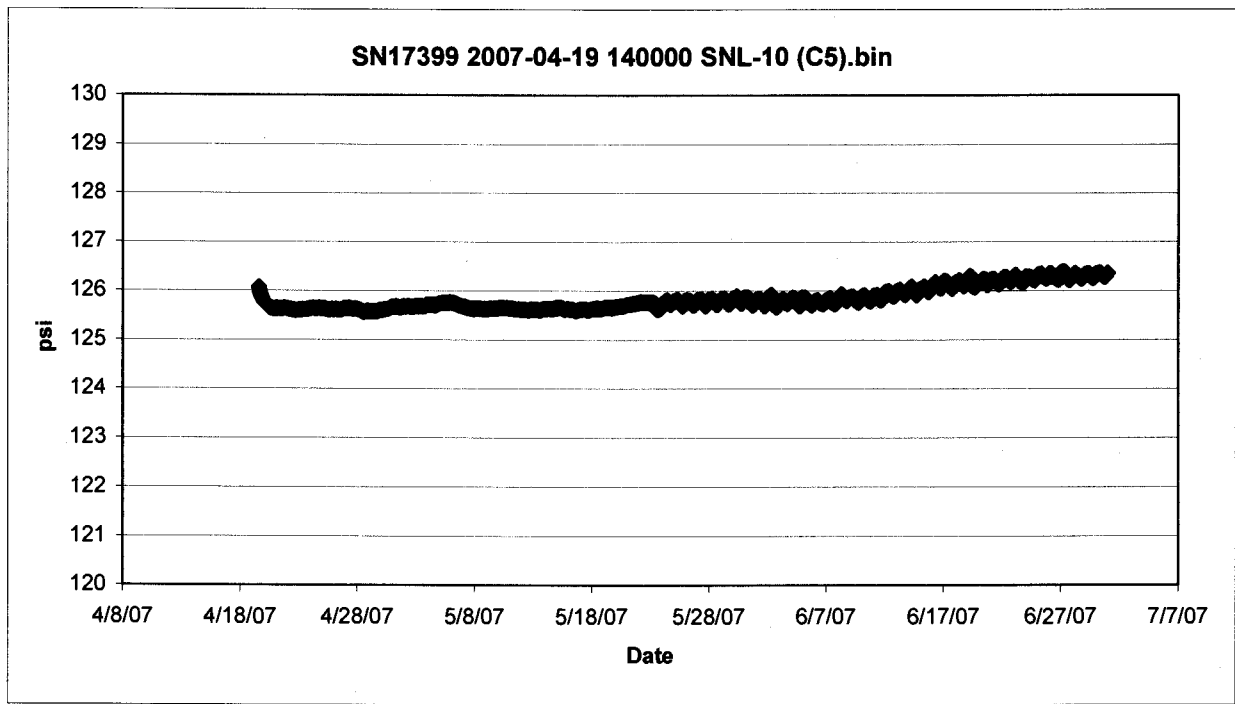
SNL-9

Date/Time	PSI	DTW	DTW Source	Troll Depth	Baro Pressure	Calc Dens	Average
4/19/2007 13:14	126.269	309.11	SNL	564.4	12.921	1.0242	1.0242
5/7/2007 11:05	126.284	309.33	WRES	564.4	13.053	1.0240	
5/21/2007 14:04	126.547	308.45	SNL	564.4	12.915	1.0241	
6/11/2007 11:10	126.802	308.05	WRES	564.4	12.968	1.0244	



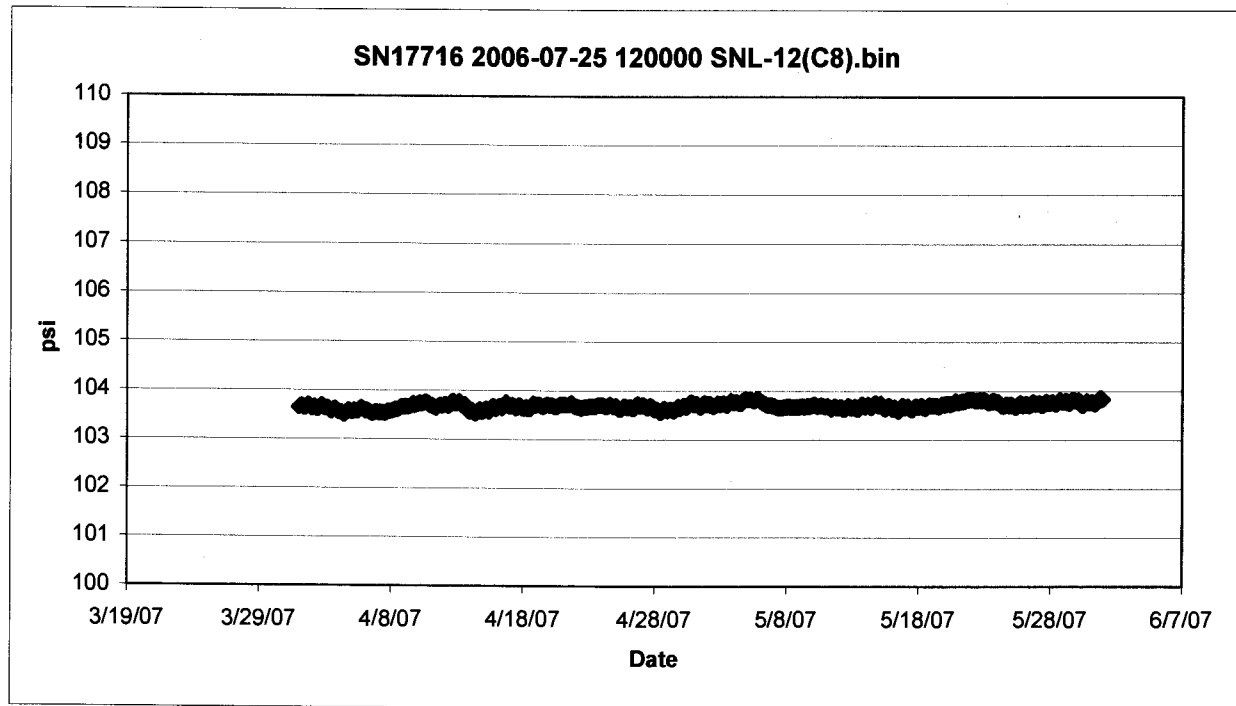
SNL-10

Date/Time	PSI	DTW	DTW Source	Troll Depth	Calc Dens	Average
5/7/2007 10:40	125.649	324.43	WRES	611.5	1.0097	1.0106
5/23/2007 8:18	125.752	324.19	SNL	611.5	1.0097	
6/12/2007 9:24	125.943	324.00	WRES	611.5	1.0105	
6/19/2007 10:06	126.244	323.87	SNL	611.5	1.0125	



SNL-12

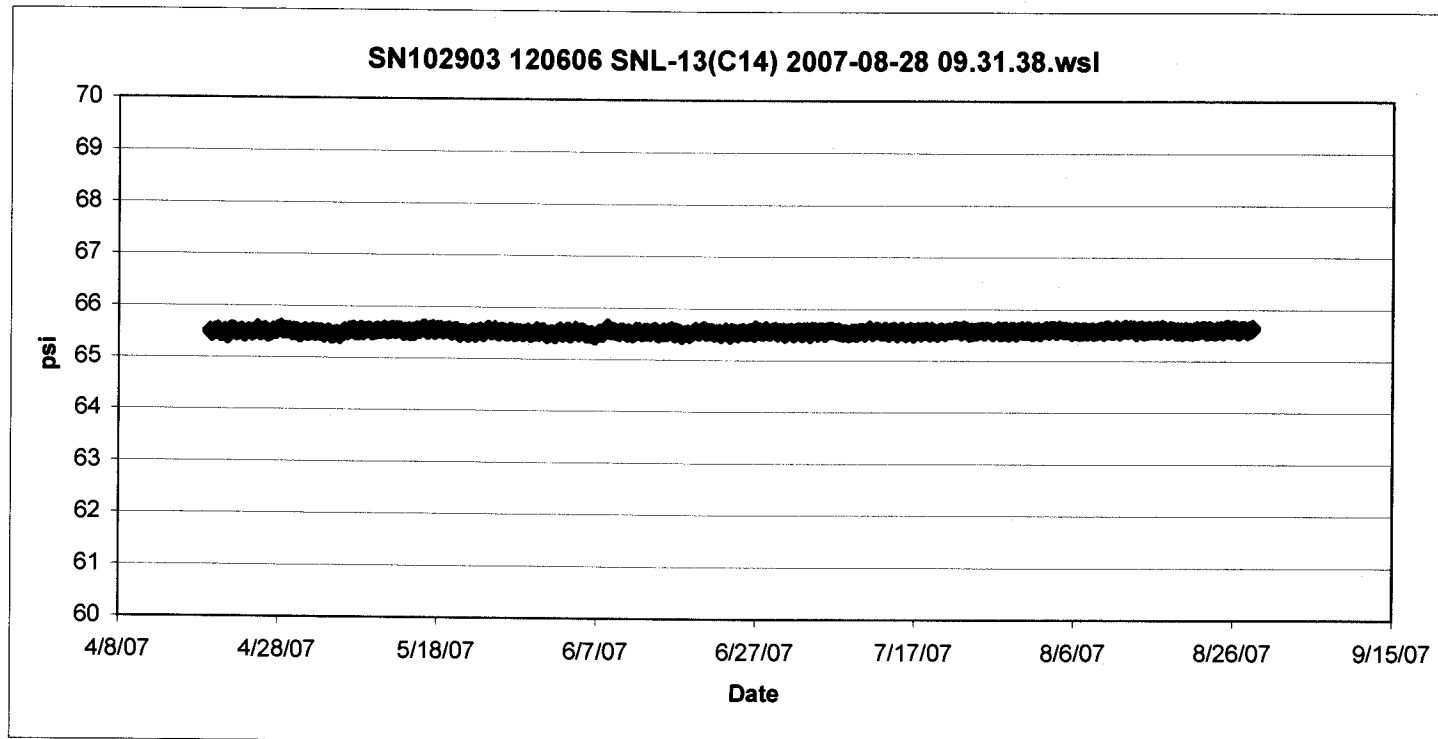
Date/Time	PSI	DTW	DTW Source	Troll Depth	Calc Dens	Average
4/9/2007 11:50	103.693	337.84	WRES	575.8	1.0052	1.0050
4/19/2007 10:37	103.678	337.82	SNL	575.8	1.0050	
5/7/2007 8:52	103.664	337.88	WRES	575.8	1.0051	
5/21/2007 12:49	103.801	337.52	SNL	575.8	1.0049	





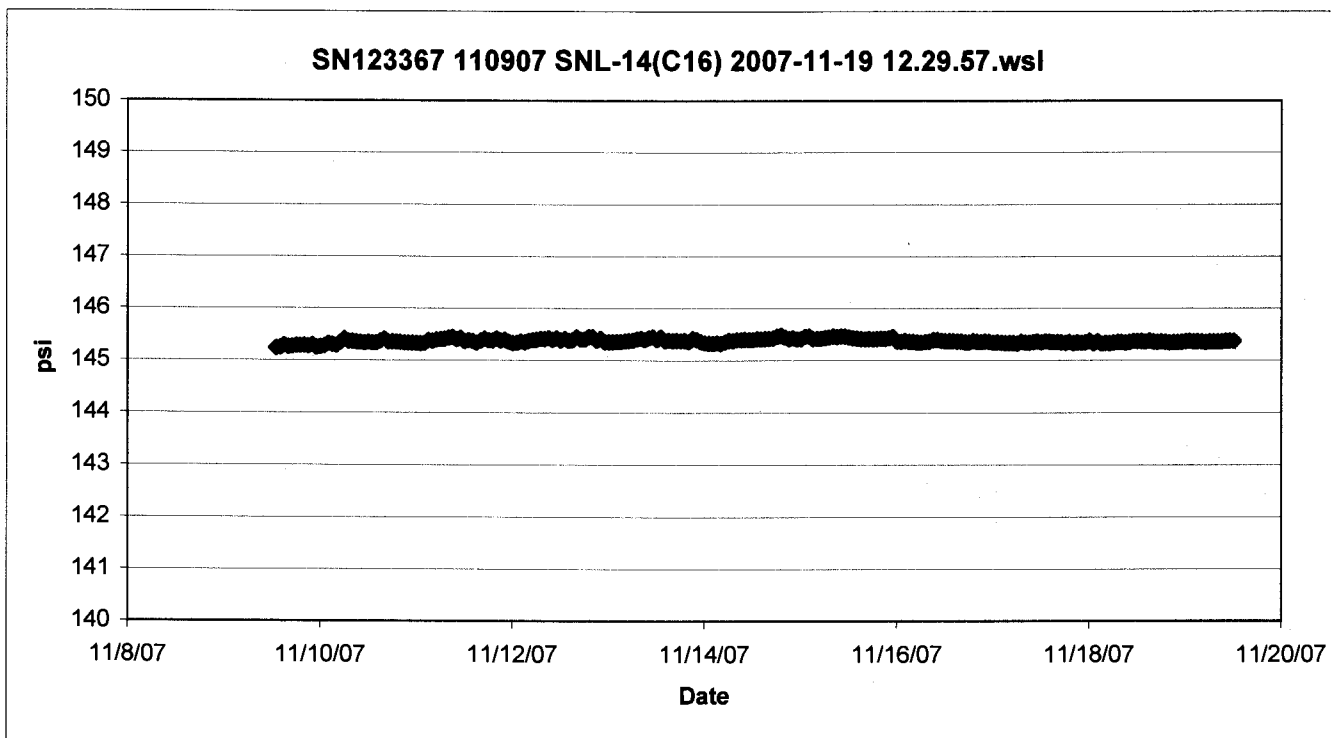
SNL-13

Date/Time	PSI	DTW	DTW Source	Troll Depth	Baro Pressure	Calc Dens	Average
4/19/2007 11:01	65.525	284.74	SNL	402.9	12.935	1.0267	1.0270
5/7/2007 8:20	65.569	284.9	WRES	402.9	13.055	1.0266	
5/23/2007 7:37	65.561	284.75	SNL	402.9	12.976	1.0267	
6/11/2007 12:04	65.522	284.83	WRES	402.9	12.957	1.0270	
6/19/2007 8:40	65.599	284.78	SNL	402.9	13.001	1.0272	
7/16/2007 8:49	65.614	284.8	WRES	402.9	13.015	1.0274	
8/7/2007 13:00	65.557	284.8	SNL	402.9	12.972	1.0271	
8/13/2007 10:10	65.622	284.86	WRES	402.9	13.086	1.0267	
8/28/2007 9:29	65.662	284.76	SNL	402.9	13.014	1.0280	



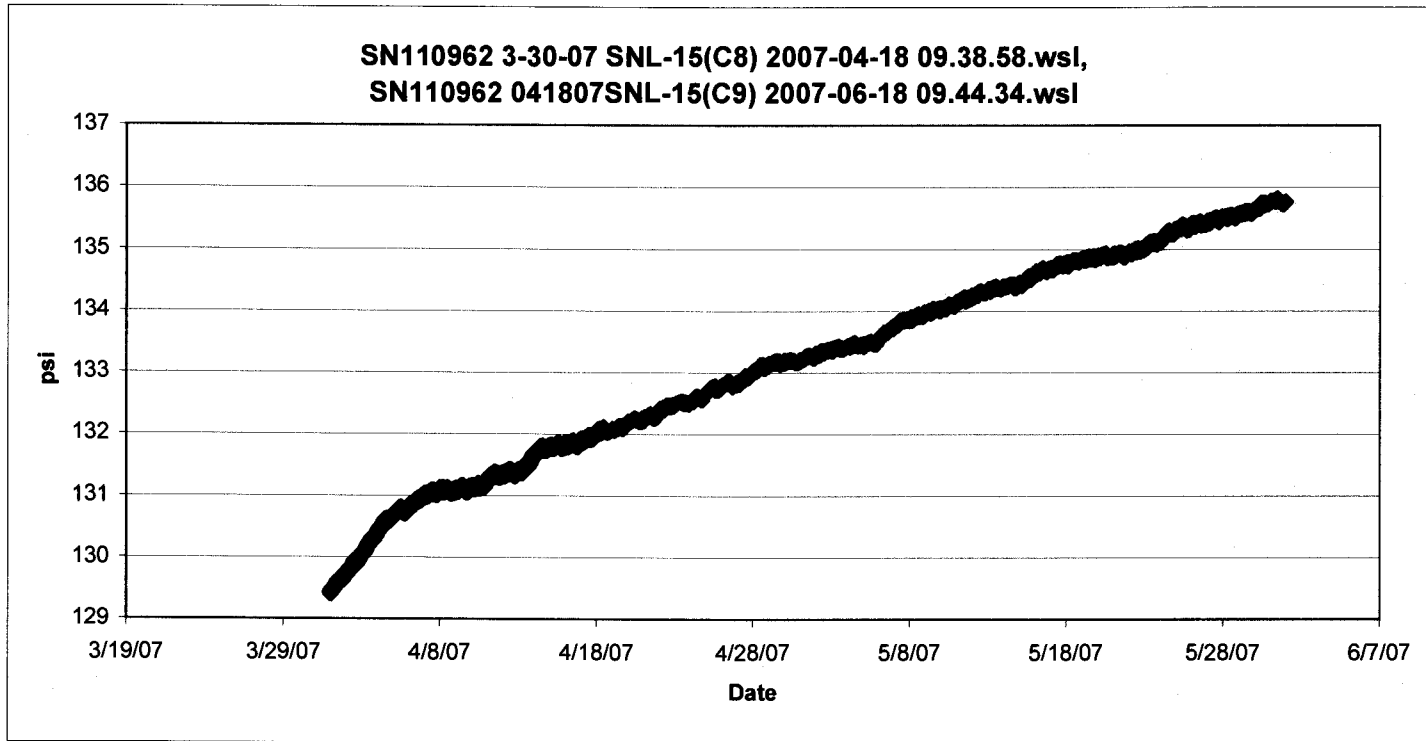
SNL-14

Date/Time	PSI	DTW	DTW Source	Troll Depth	Baro Pressure	Calc Dens	Average
11/19/2007 12:28	145.369	376.05	SNL	667.5	13.006	1.0476	1.0476



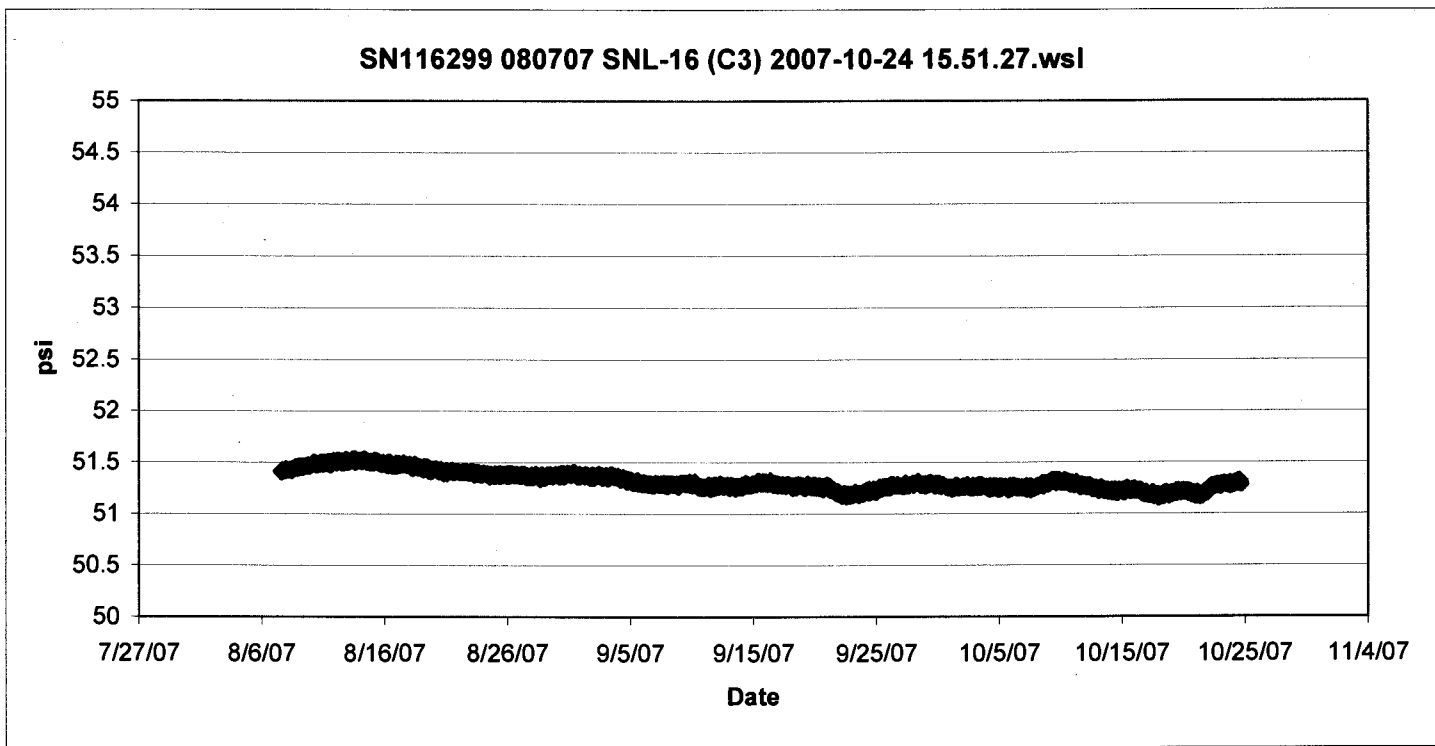
SNL-15

Date/Time	PSI	DTW	DTW Source	Troll Depth	Baro Pressure	Calc Dens	Average
4/9/2007 8:33	131.147	697.25	WRES	919.5	12.973	1.2266	1.2277
4/18/2007 9:38	132.092	696.38	SNL	919.5	13.01	1.2312	
5/7/2007 6:40	133.827	692.36	WRES	919.5	13.053	1.2266	
5/21/2007 10:22	134.939	690.05	SNL	919.5	12.95	1.2264	



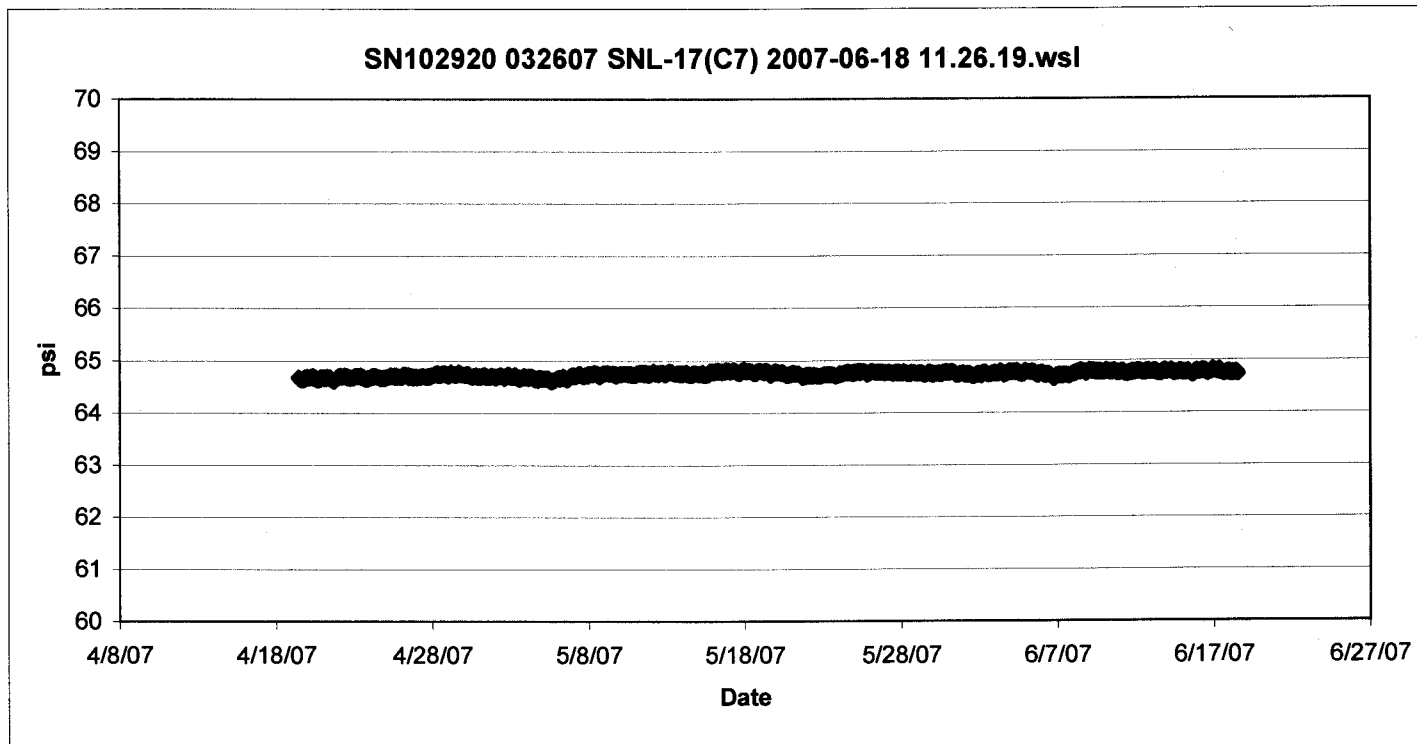
SNL-16

Date/Time	PSI	DTW	DTW Source	Troll Depth	Baro psi	Calc Dens	Average
8/7/2007 11:02	51.35	121.00	SNL	208.8	12.99	1.0078	1.0104
8/27/2007 12:33	51.348	121.27	SNL	208.8	12.996	1.0107	
9/17/2007 13:16	51.283	121.42	SNL	208.8	12.969	1.0115	
10/24/2007 15:49	51.282	121.72	SNL	208.8	13.093	1.0117	



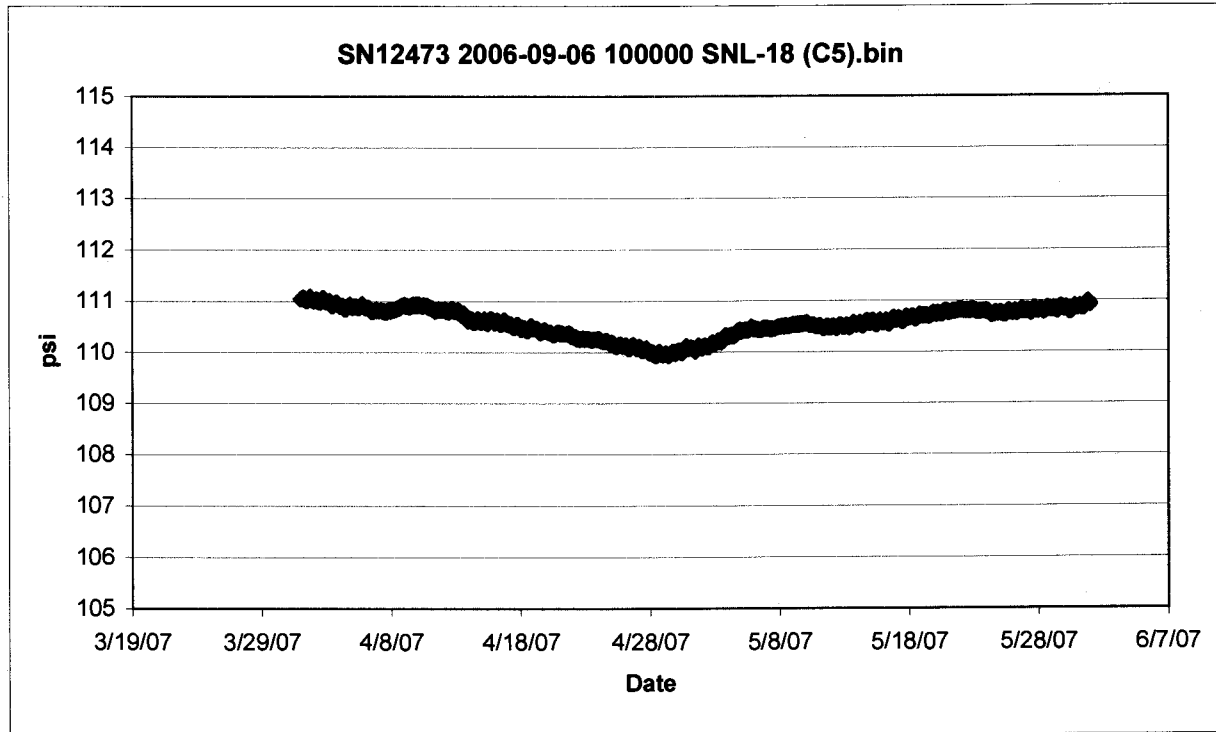
SNL-17

Date/Time	PSI	DTW	DTW Source	Troll Depth	Baro Pressure	Calc Dens	Average
4/19/2007 10:04	64.684	230.9	SNL	349.5	12.943	1.0064	1.0061
5/7/2007 8:35	64.731	230.98	WRES	349.5	13.055	1.0058	
5/21/2007 13:03	64.709	230.73	SNL	349.5	12.928	1.0057	
6/11/2007 12:20	64.761	230.75	WRES	349.5	12.957	1.0063	



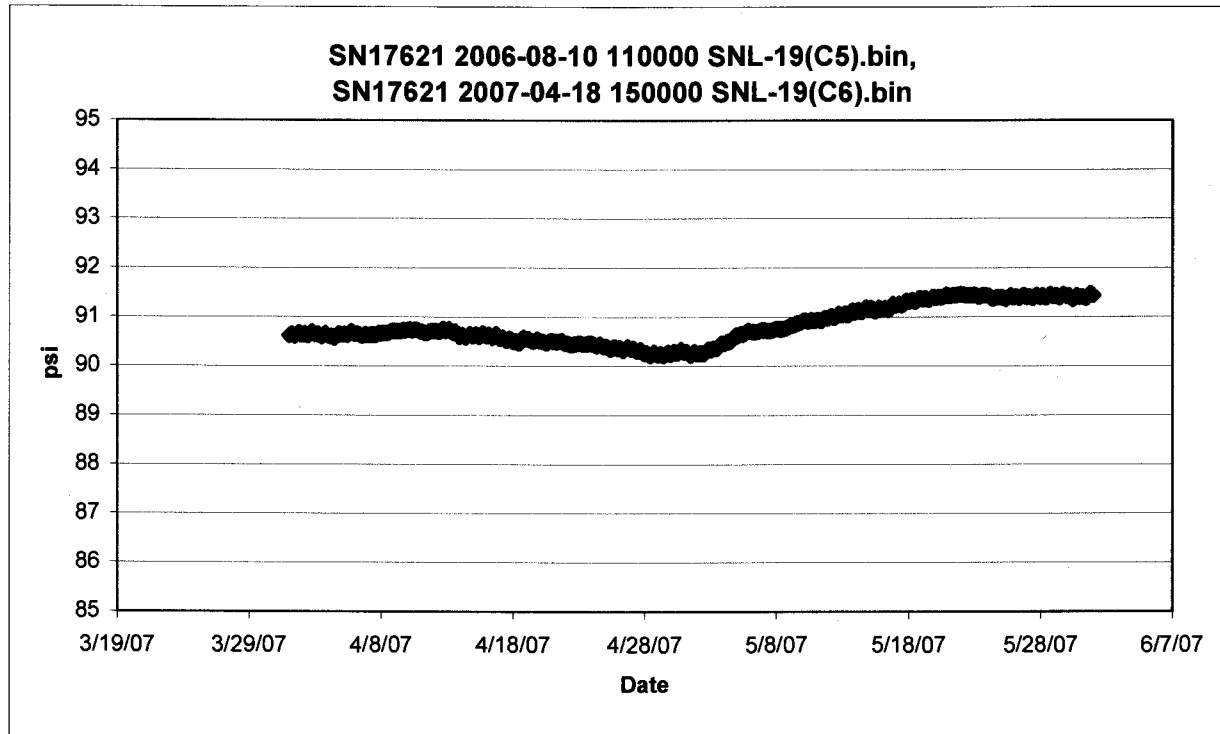
SNL-18

Date/Time	PSI	DTW	DTW Source	Troll Depth	Calc Dens	Average
4/10/2007 9:12	110.92	298.80	WRES	547.1	1.0305	1.0275
4/18/2007 12:40	110.424	298.83	SNL	547.1	1.0260	
5/8/2007 6:45	110.487	298.83	WRES	547.1	1.0266	
5/23/2007 11:30	110.795	298.22	SNL	547.1	1.0269	



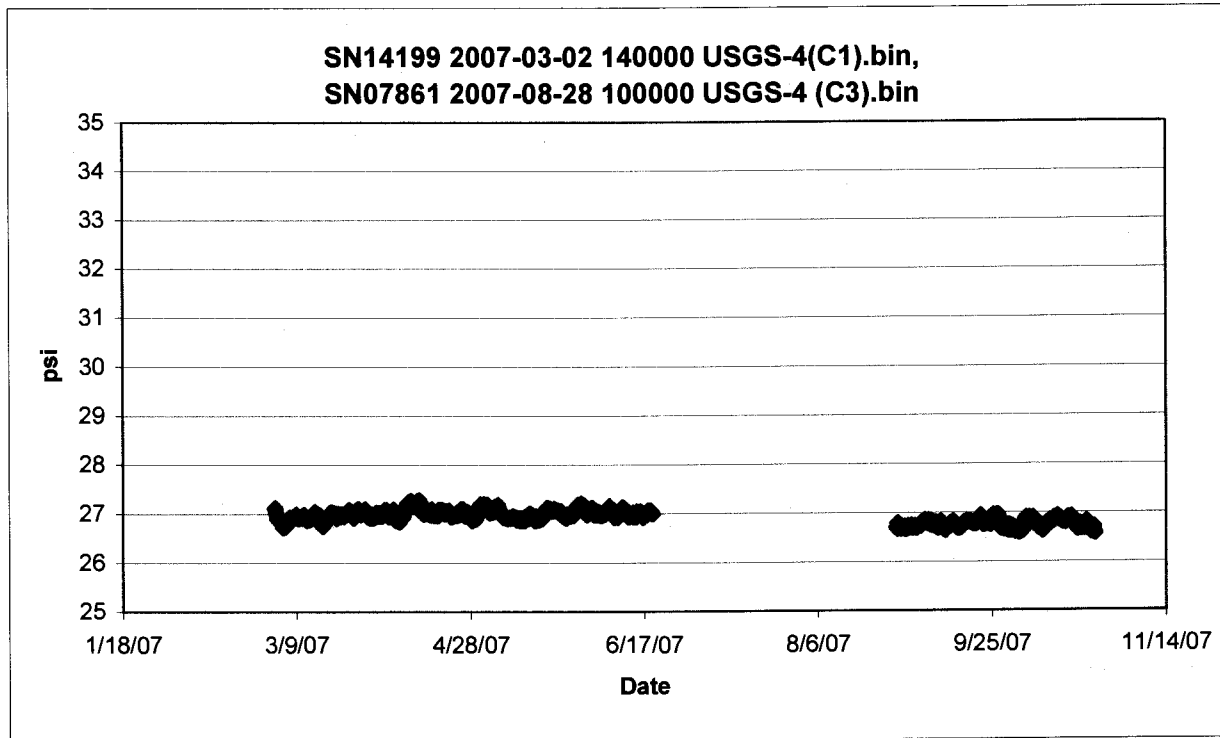
SNL-19

Date/Time	PSI	DTW	DTW Source	Troll Depth	Calc Dens	Average
4/9/2007 14:38	90.732	147.11	WRES	355.8	1.0029	1.0030
4/18/2007 13:57	90.485	147.61	SNL	355.8	1.0026	
5/7/2007 14:00	90.725	147.23	WRES	355.8	1.0034	
5/23/2007 10:28	91.421	145.59	SNL	355.8	1.0032	



USGS-4

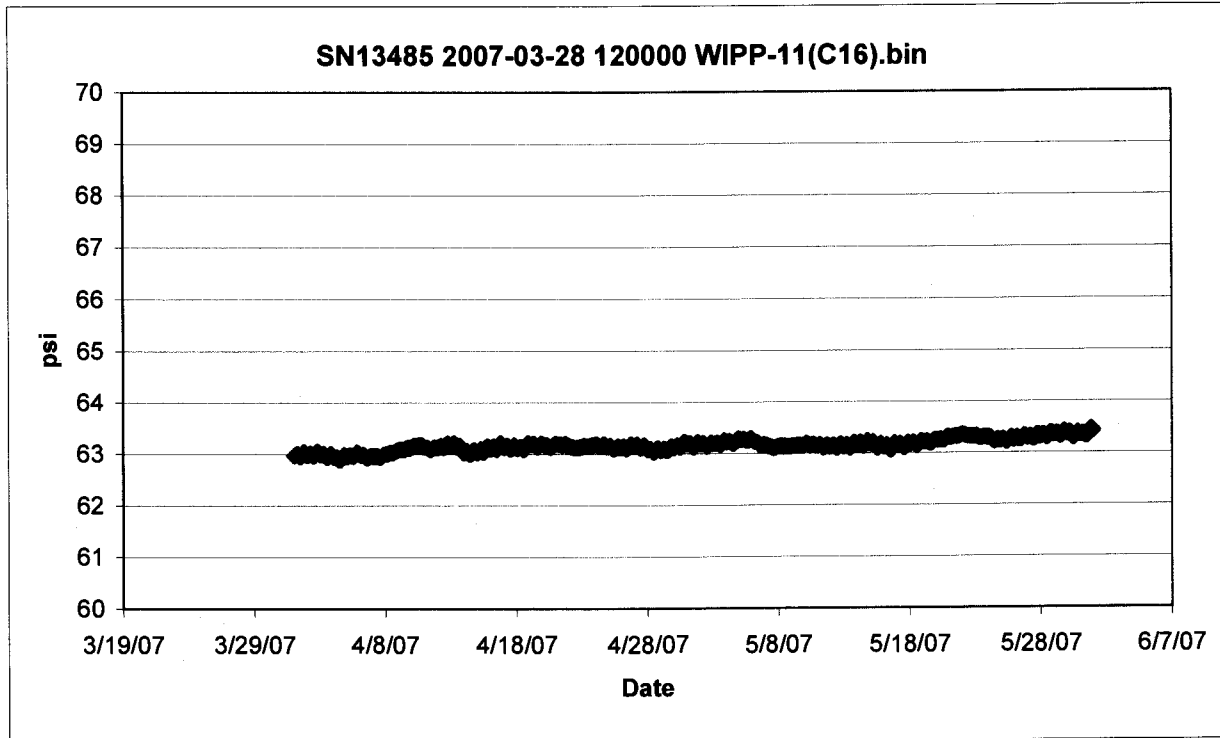
Date/Time	PSI	DTW	DTW Source	Troll Depth	Calc Dens	Average
3/2/2007 12:53	27.099	426.64	SNL	490.8	0.9743	0.9716
4/19/2007 9:16	27.049	426.72	SNL	490.8	0.9737	
6/19/2007 7:39	26.996	426.86	SNL	490.8	0.9740	
8/28/2007 8:25	26.713	426.90	SNL	490.8	0.9643	





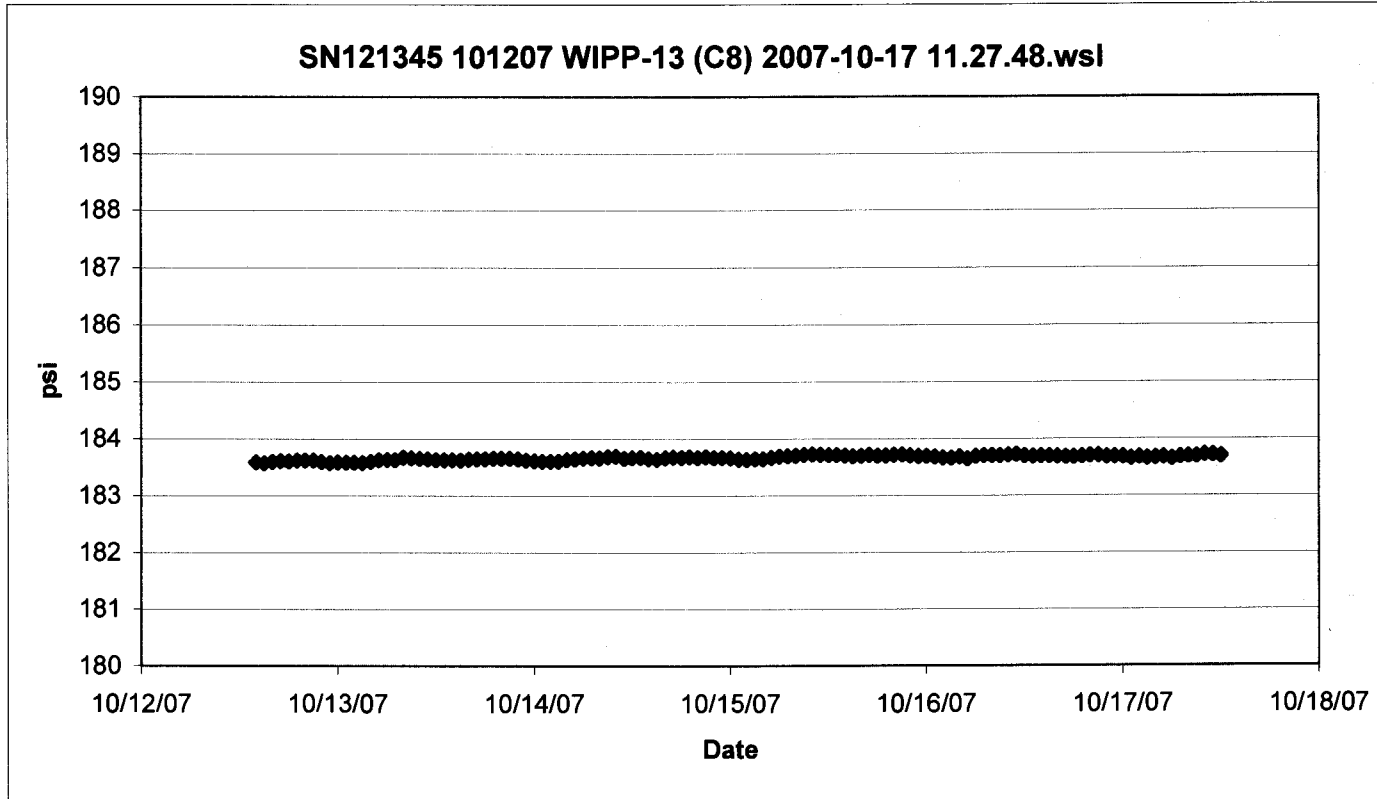
WIPP-11

Date/Time	PSI	DTW	DTW Source	Troll Depth	Calc Dens	Average
4/9/2007 15:27	63.124	360.51	WRES	500.8	1.0380	
4/18/2007 13:24	63.084	360.55	SNL	500.8	1.0376	1.0380
5/9/2007 12:05	63.142	360.54	WRES	500.8	1.0385	



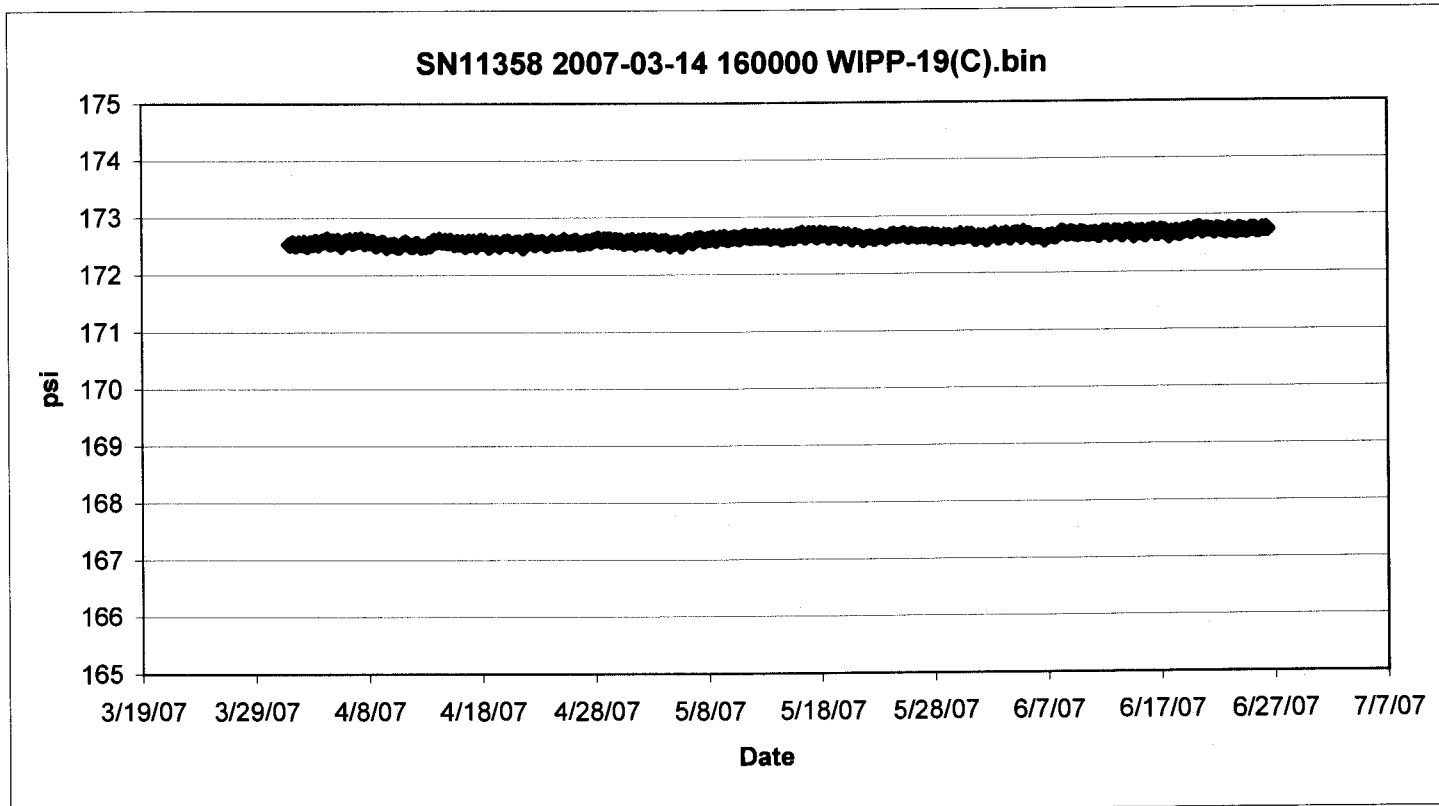
WIPP-13

Date/Time	PSI	DTW	DTW Source	Troll Depth	Baro psi	Calc Dens	Average
10/12/2007 11:49	183.55	340.67	SNL	714.8	12.929	1.0520	1.0525
10/17/2007 11:24	183.721	340.48	SNL	714.8	12.842	1.0531	



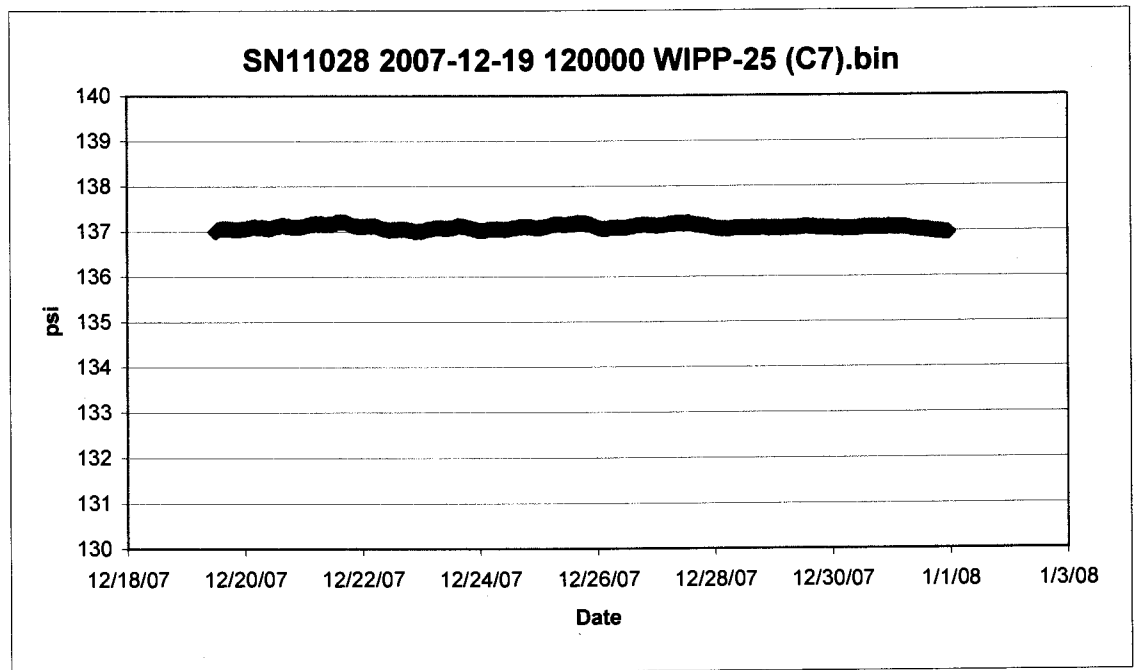
WIPP-19

Date/Time	PSI	DTW	DTW Source	Troll Depth	Baro Pressure	Calc Dens	Average
4/11/2007 8:07	172.576	388.55	WRES	741.3	12.984	1.0437	1.0438
4/19/2007 13:42	172.504	388.54	SNL	741.3	12.921	1.0436	
5/9/2007 14:05	172.635	388.60	WRES	741.3	13.035	1.0439	
5/24/2007 7:21	172.683	388.50	SNL	741.3	13.052	1.0438	
6/13/2007 13:35	172.65	388.46	WRES	741.3	12.99	1.0438	
6/19/2007 10:46	172.732	388.35	SNL	741.3	13.007	1.0439	
6/26/2007 10:19	172.732	388.37	SNL	741.3	13.015	1.0439	



WIPP-25

Date/Time	PSI	DTW	DTW Source	Troll Depth	Calc Dens	Average
12/19/2007 11:32	136.934	147.11	SNL	459.5	1.0112	1.0112



WIPP-30

Date/Time	PSI	DTW	DTW Source	Troll Depth	Calc Dens	Average
4/10/2007 9:35	66.225	347.22	WRES	500.8	0.9947	0.9944
4/18/2007 12:51	66.112	347.39	SNL	500.8	0.9941	
5/8/2007 7:00	66.154	347.32	WRES	500.8	0.9943	
5/23/2007 11:43	66.301	346.99	SNL	500.8	0.9944	

