Technical Report

Title:	***Westbay MP55 Casing Completions in DGR-1 and DGR-2***
Document ID:	**TR-07-10**
Authors:	**Kenneth Raven and Steve Gaines**
Revision:	**3**
Date:	**October 26, 2010**

DGR Site Characterization Document
Intera Engineering Project 06-219

Intera Engineering DGR Site Characterization Document		
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Authors:	Kenneth Raven, Steve Gaines	
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QA Review:	John Avis	
Approved by:	 Kenneth Raven	

Document Revision History		
Revision	Effective Date	Description of Changes
0	March 13, 2009	Initial release
1	May 31, 2010	Revision of DGR-1 MP55 component depths below 354.4 mBGS due to error in Westbay as-built spreadsheet. Changes made to Tables 4 and 5 in Appendix B and Table E.1 in Appendix E.
2	June 17, 2010	Minor revisions to address NWMO editorial comments of June 15, 2010 Updating of Table 1 and references.
3	October 26, 2010	Revision of DGR-1 and DGR-2 MP55 monitoring interval depths due to error in spreadsheet. Changes made to Table 2, Figure 4 and Figure 5 in report text, Table 4 in Appendix B and Table E.1 and Table E.2 in Appendix E.

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1 Introduction

The activities described in this Technical Report (TR) constitute one component of the Intera Engineering Ltd. Geoscientific Site Characterization Plan (GSCP) for the Bruce Deep Geologic Repository (DGR) for long-term management of low- and intermediate-level radioactive waste at the Bruce nuclear site near Tiverton, Ontario. Intera Engineering Ltd is under contract to the Nuclear Waste Management Organization (NWMO) to implement the GSCP. The GSCP describes recommended methods and approaches to acquire the necessary geoscientific information to support the development of descriptive geosphere models of the Bruce site and the preparation of a DGR environmental assessment and site preparation/construction license application to the Canadian Nuclear Safety Commission. The GSCP is described by Intera Engineering Ltd. (2006, 2008).

This report summarizes the review of borehole drilling, logging and testing results, development of Westbay MP-55 casing system designs for boreholes DGR-1 and DGR-2, installation of the MP55 casing systems in each borehole, and initial testing of the installed casing systems to verify successful installation. Results of subsequent pressure monitoring of these casing systems is given in TR-08-31 – Pressure and Head Monitoring in MP55 Casing Systems Installed in DGR-1 to DGR-4 (Intera Engineering Ltd., 2010a).

Completion of boreholes DGR-1 and DGR-2 with MP55 multi-level monitoring casings manufactured by Westbay Instruments Inc. (also operating as Schlumberger Water Services), was conducted to establish deep bedrock monitoring wells for the Bruce DGR project. These deep bedrock monitoring wells allow for monitoring of formation pressures, performance of borehole hydraulic tests and collection of groundwater and gas samples from packer-isolated test intervals.

Work described in this Technical Report was completed in accordance with Test Plan TP-07-06 – Completion of DGR-1 & DGR-2 with Westbay MP55 Casing (Intera Engineering Ltd., 2007a), which was prepared following the general requirements of the Intera DGR Project Quality Plan (Intera Engineering Ltd., 2009a).

2 Background

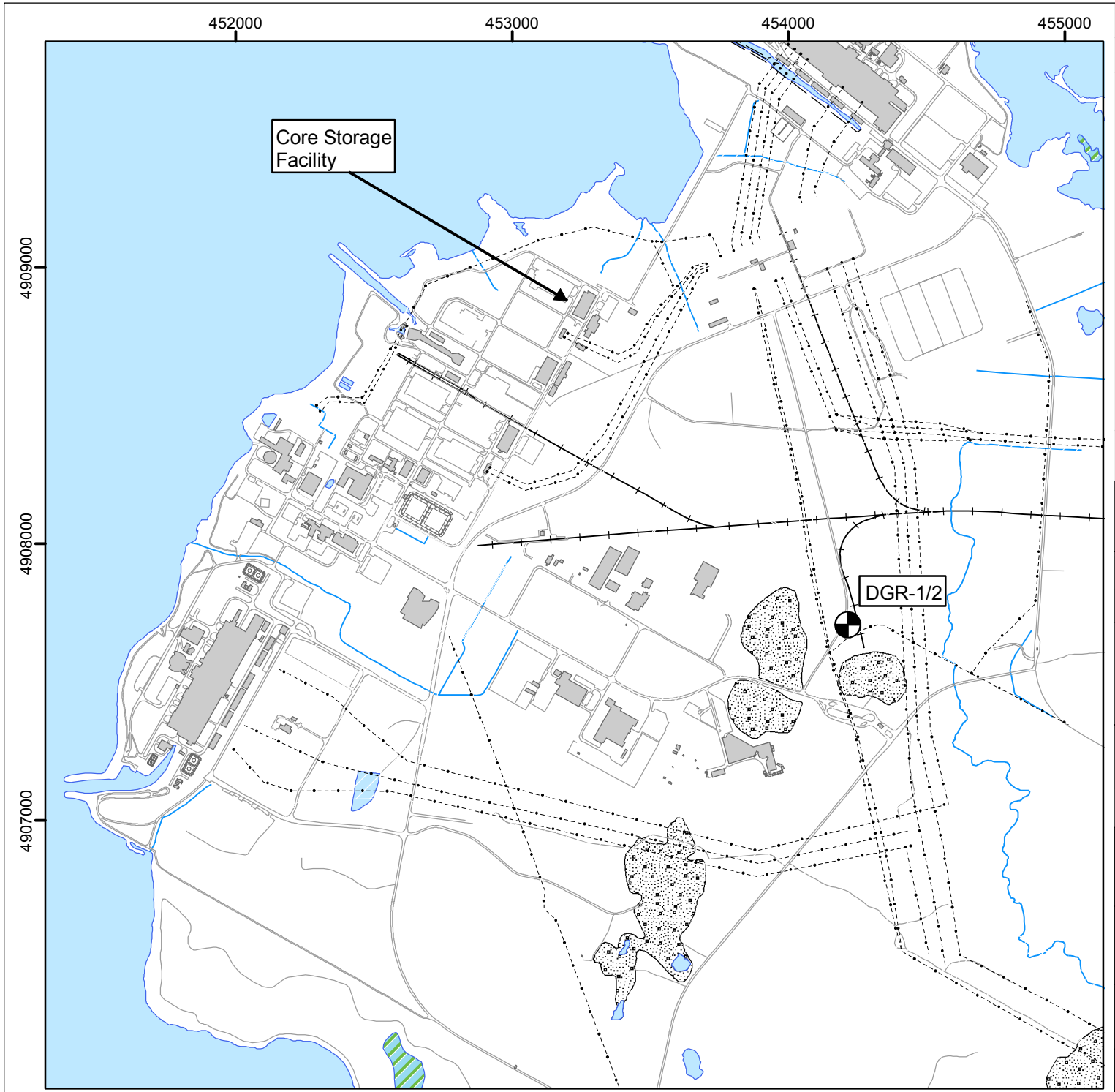
As part of Phase 1 of the GSCP, two deep boreholes (DGR-1 and DGR-2) were drilled, logged and tested in the period December, 2006 to October, 2007. The drilling, logging and borehole testing activities in these open boreholes are described in a series of Technical Reports as summarized in the following Table 1. These Technical Reports are the source of data used in the design of MP55 casing systems in boreholes DGR-1 and DGR-2.

Table 1 Summary of Technical Reports for DGR-1 and DGR-2 Borehole Investigations

Report No.	*Title*	*Reference*
TR-07-05	Bedrock Formations in DGR-1 and DGR-2	Intera Engineering Ltd. (2010b)
TR-07-06	Drilling, Logging and Sampling of DGR-1 & DGR-2	Intera Engineering Ltd. (2010c)
TR-07-08	Borehole Geophysical Logging of DGR-1 & DGR-2	Intera Engineering Ltd. (2010d)
TR-08-34	Analysis of Straddle-Packer Tests in DGR Boreholes	Intera Engineering Ltd. (2010e)
TR-07-14	Fluid Electrical Conductivity Logging in Borehole DGR-1	Intera Engineering Ltd. (2009b)

Figure 1 shows the location of boreholes DGR-1 and DGR-2 at the Bruce site.

All work completed by Westbay Instruments was performed under the general requirements of the Schlumberger Water Services Quality Management System (Westbay Instruments Ltd, 2005).



OPG DGR
Site Characterization Plan

Legend

- Location of DGR-1/2
- Buildings
- Roads
- Railway
- Transmission Line
- Pits or Landfills
- Stream or Drainage

Location of DGR-1 and DGR-2 at the Bruce Site

Figure 1

N

Scale 1:20,000 (approx.)

0 125 250 500 750 1,000 Meters

Date: 27/02/2008 Drawn: NKP
Project: 06-219 Checked: SNS
P:/Projects/2006/06-219/QMS_DGR/TR_Working Files/
TR-07-10/TR-07-10_Figure 1.mxd

Projection: UTM NAD 83 Zone 17

Data Credits:
NRVIS/OBM, MNR, Ontario Power Generation, Bruce Power

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Monitoring intervals are defined using MP55 inflatable-deflatable packers. Intervals are defined to isolate identified or suspected permeable and impermeable horizons within each borehole and to create intervals representative of stratigraphic formations defined based on borehole logging, core logging and testing results. Monitoring and sampling of intervals are accomplished using MP55 measurement ports and pumping ports and MOSDAX sampler probes.

Installation of MP55 casing systems in boreholes DGR-1 and DGR-2 and installation of dedicated MOSDAX pressure probes were conducted by staff of Westbay Instruments with field support provided by staff of Intera Engineering Ltd. During the course of the MP55 casing and MOSDAX installations, Intera staff were trained by Westbay on operation of MP55 casing systems and MOSDAX probe usage.

Final completion reports for the installed MP55 casing systems in boreholes DGR-1 and DGR-2 prepared by Westbay Instruments are provided as Appendices B and C of this Technical Report. The MOSDAX pressure probe installation report prepared by Westbay Instruments is provided as Appendix D of this Technical Report.

3 Methodology and Testing Procedures

3.1 Design of MP55 Casing Systems

The general approach to design of MP55 casing systems in boreholes DGR-1 and DGR-2 is described in TP-07-06. As described in TP-07-06, available borehole information from drilling, core logging, geophysical logging and borehole hydraulic testing were reviewed by Intera and used to generate a design plan of required depth locations of Westbay packers, measurement ports, pumping ports and casing lengths.

The rationale for selecting locations for packers and measurement/pumping ports is outlined below.

- Start from basic design assumptions developed in DGR Project budget concerning number of packer-isolated test intervals in each borehole (i.e., about 20 to 25 intervals per open hole) and divide this number into the length of open borehole to obtain average interval length for each borehole.
- Review bedrock formation information (TR-07-05), borehole core logs (TR-07-06), borehole packer test data (TR-07-13), fluid electrical conductivity data (TR-07-13) and borehole geophysical logging data (TR-07-08) that assist in identification of permeable intervals within each borehole and isolate those intervals with packers with monitoring access by pressure measurement ports and pumping ports. Permeable intervals are considered intervals that would yield sufficient water to allow for interval purging through the pumping port. Typically, this is defined as intervals with estimated or measured hydraulic conductivity greater than 1×10^{-8} m/s.
- Review borehole stratigraphy and borehole geophysical logging to identify sharp formation contacts that may form permeable discontinuities and include these discontinuities in packer-isolated test intervals.
- Set remaining packers to isolate separate formation and stratigraphic units considering thickness of units and number of allowable intervals. Double up on packer placement in selected critical zones (e.g., suspected gas producing zones, high fluid pressure zones in Cambrian sandstone).
- Modify packer placement locations to avoid zones of increased borehole diameter identified by borehole caliper and acoustic televiewer logs that may compromise seating and sealing of packers.
- Create selected short interval (<10 m length) zones for monitoring to improve opportunities for future groundwater sampling through pressure measurement ports.
- Place one measurement port below each packer and one magnetic locating collar below each measurement port to facilitate MP55 packer inflation and locating measurement ports during pressure profiling.
- Maximize use of 3 m length casing sections.

- Use Geopro (Westbay Model 0618) packers to carry casing load within steel casing, and in expected areas of high differential pressures and pressure gradients (e.g., bottom of DGR-2 to control Cambrian sandstone overpressure).

- Use stainless steel casing and pressure measurement ports in sections of hole expected to experience significantly elevated formation pressures that would exceed outside over inside pressure rating of PVC MP55 components (e.g., bottom of DGR-2 to accommodate Cambrian overpressure)

The proposed casing installation plans for boreholes DGR-1 and DGR-2 prepared by Intera using the above rationale were forwarded to staff of Westbay Instruments for review and verification. Following review by Westbay Instruments, the proposed casing installation plans were finalized by Intera and became the basis for the casing installations as formalized by Westbay in Casing Installation Logs.

Application of the general design considerations described above resulted in final MP55 casing plans for boreholes DGR-1 and DGR-2 with the general features summarized in Table 2.

Table 2 Summary of Main Elements of DGR-1 and DGR-2 MP55 Casing Completions

MP55 Casing Element	***DGR-1***	***DGR-2***
Monitored Depth Range (m)	190.75 to 462.87	460.45 to 848.06
Number of Packers	23	28
Number of Formation Monitoring Intervals	22	25
Range: Average Monitoring Interval Length (m)	3.45 to 24.05: 11.4	3.35 to 23.05: 14.5
Number of Formation Pressure Measurement Ports	22	25
Number of Formation Pumping Ports	3	1
Stainless Steel Casing Components	None	Bottom 23.7 m of Casing

3.2 MP55 Casing Installations

Installation of Westbay MP55 multilevel monitoring casings were performed by staff of Westbay Instruments with support provided by staff of Intera Engineering Ltd. in accordance with standard Westbay casing installation procedures as described in TP-07-10. MP55 casing was installed in DGR-1 from September 18 to 25, 2007. MP55 casing was installed in DGR-2 from November 18 to December 13, 2007.

As described in TP-07-10, the following common activities comprised the installation of MP55 casing in boreholes DGR-1 and DGR-2.

- Preparation of Casing Installation Log by Westbay and acceptance of the Casing Installation Log by Intera.

- Layout, numbering and visual inspection of all MP55 casing components at the well head, including measurement of the length of each Westbay casing section. Placement of geotextile filter socks over measurement port couplings in DGR-2, but not over such couplings in DGR-1, due to the assumed lower clay contents of the intersected formations in DGR-1.

- Lowering of MP55 casing components into the borehole in the sequence indicated on the approved Casing Installation Log. Lowering was completed by hand as buoyancy conditions allowed and by hoist as necessary. Traced water was added to the inside of the casing to overcome buoyancy and for pressure

testing of each casing joint. Sampling and testing of casing installation water is described in Section 3.3. Each MP55 component was checked on the Casing Installation Log as it entered the borehole.

- Pressure testing each casing joint for a minute at an internal pressure of 300 psi to confirm integrity of hydraulic seals.

- After the complete casing string was assembled and lowered into the borehole, the hydraulic integrity of the complete casing string was tested by monitoring depressed water levels within the casing overnight.

- After confirmation of hydraulic integrity of the complete casing string, the casing string was positioned in the borehole as shown on the Casing Installation Log.

- Each MP casing packer was inflated using traced water. Packers were inflated in sequence beginning with the lowest. The results of the inflation of each packer including injection pressures and pumped volume were recorded on MP55 Packer Inflation Field Records.

- During the inflation of packers, the MP55 casing was de-stressed to decrease tensile loads to within long-term safe operating limits.

- After inflation of the last packer, the casing top was adjusted as necessary, and trimmed and clamped in position to the final configuration. A lifting hoist and dynamometer were used to complete final trimming.

- A Summary Casing Log was prepared showing the “as-built” construction of the MP55 casings. The Summary Casing Log included tabular summaries of the locations of all packers, measurement ports, pumping ports and casing lengths, and a schematic of the entire casing completion. The “as-built” construction of each MP55 casing system is determined from the installed nominal casing component lengths adjusted for the pull-up heights during final trimming and packer inflation. The cumulative pull-up heights are recorded in a step-wise manner for each trimmed casing section above inflated packers. Pull heights measured at the well head are linearly apportioned over the free length of casing above the uppermost inflated packer.

In addition to these common activities, the following borehole-specific activities were completed to complete installation of MP55 casings in boreholes DGR-1 and DGR-2.

- To allow installation of MP55 casing in DGR-2, it was necessary to significantly reduce the flow rate of produced water in borehole DGR-2 generated from the flowing Cambrian Formation. This was accomplished by permanently setting a Production Injection Packer (PIP) at the bottom of DGR-2 isolating the majority of the Cambrian that was permeable and over-pressured. The PIP was set such that the Cambrian below a depth of 848.0 mBGS was sealed off (i.e., leaving 4.30 m of exposed Cambrian) and the upward flow in the borehole was reduced to about 10 L/minute. The MP55 casing was installed over the PIP.

- Installation of MP55 casing was completed in DGR-2 with the shut-in diverter wellhead installed at ground surface. During installation, produced Cambrian Formation fluid was collected at surface, stored in frac tanks and shipped off site for disposal.

Figure 2 MP55 Well Head Completion – DGR-1

Figure 3 MP55 Well Head Completion – DGR-2

- At the completion of each MP55 casing installation, customized MP55 well heads were installed at each of boreholes DGR-1 and DGR-2 to address over-pressure issues. For DGR-1, a pressure gauge and valved flow diverter tee were installed at the well head to measure potential pressure buildup within the interior of the MP55 casing due to leakage from the exterior of the casing. For DGR-2, the stainless MP55 well head assembly was threaded to the shut-in diverter well head to provide pressure seals on both the inside and outside of the MP55 casing. A pressure gauge and valved flow diverter tee were also installed to monitor the inside of the MP55 casing. Figures 2 and 3 show the MP55 well head completions for boreholes DGR-1 and DGR-2, respectively.

- For DGR-2, which subsequently was completed with a dedicated MOSDAX string of pressure probes (see Section 3.5), a set of electrical bulkhead connectors were installed in the MP55 well head to provide a pressure-sealed electrical connection. The MOSDAX data logger was also set up to run on solar panels.

The complete detailed descriptions of the installation of MP55 casings in boreholes DGR-1 and DGR-2, including Summary Casing Logs, as-built tables and schematics, and MP55 Packer Inflation Records, are given in Westbay Completion Reports provided in Appendices B and C, respectively.

3.3 Characterization of Casing Installation Water

Water required for lowering of the casing, for pressure testing of casing couplings and for inflation of casing packers was traced Lake Huron water. All water used to install the MP55 casing systems was traced using a target tracer concentration of 1000 µg/L Na Fluorescein following the procedures of TP-06-08 – DGR-1& DGR-2 Drilling Fluid Management (Intera Engineering Ltd., 2007b). Elevated tritium as a tracer was also present within the casing installation water. Traced casing installation water was prepared in a 1000 L polyethylene plastic tank.

Single representative grab samples of casing installation waters for DGR-1 and DGR-2 were collected and analysed for Na Fluorescein, major and trace metals, major anions, tritium, ^{18}O and ^{2}H and retained in archive.

Casing installation water samples collected from the casing installation water tank were identified by CIW-XXXX-YY, where XXXX is the borehole identifier and YY is the index number of the sample. All casing installation water samples required the time and date of sampling to be recorded on the sample label, as well as the name of the person who collected the sample.

Samples collected for NaFl analyses were collected as well-mixed grab samples in 250 millilitre (mL) high density polyethylene (HDPE) containers that were protected from heat and light and stored in refrigerators. Approximately 20 mL of sample was filtered with a 0.45µm filter using a syringe. A 2 mL sample of the casing installation fluid was collected with a 1-5 mL pipettor and was mixed with 18 mL of deionized water, which was collected with a 2-10 mL pipettor, to generate a 20 mL water sample for analysis of NaFl content.

Samples of casing installation water were collected for specific analytical tests in high density polyethylene (HDPE) bottles. Samples were kept in the refrigerators in the Core Storage Facility, at approximately 4°C until analysis or shipment to laboratories. Archived water samples were also stored in the Core Storage Facility refrigerators. Table 3 summarizes the sample container and preservation requirements for the analysis of selected casing installation water parameters.

NaFl concentrations were measured in the field laboratory using a Turner Designs Trilogy Model 7200-000 fluorometer (MTE ID: FL-01). The fluorometer was calibrated once per batch of NaFl tracer stock solution mixed using prepared NaFl standards. The NaFl standards were prepared using treated Lake Huron water. The calibration was checked using manufacturer-prepared solid state standards each time the fluorometer was used to measure casing installation water tracer concentrations. Both standards and collected samples were diluted

1:10 to optimize tracer measurement within the fluorometer linearity range.

Table 3 Summary of Container Requirements for Casing Installation Water Samples

Analytes	*Bottle Type*	*Volume (mL)*	*Preservation*	*Headspace*
Na Fluorescein	HDPE	250	Store in dark 4-10°C	No
Major and Trace Metals	HDPE	60	Filter to 0.45 μm Acidify to pH <2 with Nitric Acid (~5 drops of 50% NHO_3) 4-10 °C	No
Major Anions	HDPE	60	4-10 °C	
^{18}O and ^{2}H	HDPE	25	None required	No
Tritium	HDPE	250	None required	No
Archive	HDPE	1000	4-10 °C	No

Tritium analyses were completed by the Environmental Isotope Laboratory, University of Waterloo in Waterloo, Ontario. Major and trace metals and major anions analyses were completed by Activation Laboratories Ltd. in Ancaster, Ontario. ^{18}O and ^{2}H analyses were completed by the University of Ottawa in Ottawa, Ontario. Results of the field and laboratory analyses are presented in Table A.1 in Appendix A.

3.4 Initial Pressure Profiles

As part of the casing installation procedure, two sets of pressure profile measurements are performed, prior to and following inflation of packers.

The pressure profile measurements taken before packer inflation are intended to confirm the operation of all pressure measurement ports downhole, while there is an opportunity to easily retrieve and replace any faulty pressure measurement ports. A secondary purpose of the pre-inflation pressure profile is to establish the open-hole pressure and fluid density profile that can be used as surrogate of the formation fluid density profile in initial calculations of environmental head from subsequent pressure profiles of packer-isolated intervals.

The post-inflation pressure profile measurements were taken within one or two days of completion of the inflation of packers and are intended to document the initial performance of the installed MP55 casing systems.

3.5 MOSDAX String Installation

Following the collection of pressure profiles on December 13, 2007 and January 24, 2008, the pressure data in borehole DGR-2 were reviewed to select 10 intervals for long-term, continuous pressure monitoring using a 10 probe MOSDAX string. Table 4 below summarizes the 10 intervals selected for MOSDAX pressure monitoring and the rationale for selection of those intervals in DGR-2. Depth intervals in Table 4 are the exact depths based on actual sealing depths of interval packers as listed in Appendix E.

The MOSDAX string was installed by staff of Westbay Instruments on March 3 and 4, 2008. The details of the MOSDAX installation including all systems operations checks are given in the MOSDAX Installation Report provided in Appendix D.

Table 4 Summary of MOSDAX String Completion in DGR-2

Zone No.	*Interval Depth (mBGS)*	*Main Formations Monitored*	*Selection Rationale*
1	840.74-848.00	Shadow Lake/Cambrian	High Pressure Zone in Cambrian Sandstone
4	808.44-821.5	Gull River	Cambrian Influenced Zone in Gull River
6	772.34-790.80	Coboconk/Gull River	Intermediate Zone in Middle Ordovician
7	761.64-771.39	Coboconk	Intermediate Zone in Middle Ordovician, Ash Layer
9	731.54-743.90	Kirkfield	Deepest Under-Pressured Zone
12	677.24-689.70	Cobourg	Repository Horizon
15	627.54-646.10	Blue Mountain	Most Under-Pressured Zone
18	580.94-587.49	Georgian Bay	Over-Pressured Zone
20	537.24-555.70	Georgian Bay	Under-Pressured Zone in Middle of Georgian Bay
24	477.04-483.50	Queenston	Upper Zone, Middle of Queenston

4 Results

4.1 Casing Installation Water

Table A.1 shows the casing installation water for boreholes DGR-1 and DGR-2 was typical low TDS Lake Huron water. The casing installation water for DGR-1 and DGR-2 was effectively traced with tritium at concentrations of 140 and 212 TU, respectively, and NaFl at concentrations of 1023 and 1063 µg/L, respectively. This tracing of casing installation water may be of assistance in determining presence or absence of casing water contamination in future groundwater sampling efforts that may be completed in MP55 packer-isolated intervals in boreholes DGR-1 and DGR-2.

4.2 MP55 Casing Installations

Review of the Casing Completion Reports provided in Appendices B and C, shows that all pressure measurement ports in DGR-1 and DGR-2 operated successfully, and all but two packers inflated successfully. Packer No. 11 at a nominal depth of 339.4 mBGS in DGR-1 and packer No 10 at a nominal depth of 712.0 mBGS in DGR-2 did not inflate correctly and hence may not be providing seals at these depths.

Based on these packer inflation results, intervals No. 10 and 11 in DGR-1 and No. 9 and 10 in DGR-2 may be hydraulically connected.

4.3 Packer-Isolated Test Intervals

Tables E.1 and E.2 of Appendix E summarize the depth and elevation of the measurement ports and the top and bottom seals of all packer-isolated MP55 monitoring intervals in DGR-1 and DGR-2. Tables E.1 and E.2 also list the zone length and the bedrock formations intersected by each of the MP55 monitoring intervals in DGR-1 and DGR-2, respectively.

The depths and elevations of the top and bottom of each MP55 monitoring interval listed in Tables E.1 and E.2 are based on actual packer seal distances from packer casing couplings and are more accurate than the nominal interval depths that are recorded in Tables 4 of the Westbay Completion Reports given in Appendices B and C that are based on the distances to packer casing couplings. Hence monitoring intervals in Tables E.1 and E.2 are longer than the nominal monitoring intervals given in the Westbay Completion Reports, by about 0.35 m.

4.4 Pressure Profiles

The pre-inflation and post-inflation pressure profiles for boreholes DGR-1 and DGR-2 expressed as fresh water heads in depths below ground surface are presented in Tables 6 and 7 and Figures 1 and 2 of the Completion Reports given in Appendices B and C, respectively.

These pressure data, expressed as environmental and fresh water heads are plotted as depths below ground surface against the bedrock stratigraphic column in Figures 4 and 5. The environmental water heads are calculated using the open-hole pressure data as a surrogate for the fluid density profile of the bedrock formations intersecting boreholes DGR-1 and DGR-1. Because of the very short elapsed time since packer inflation for the first post-inflation pressure profile, these pressure data are most useful in determining that the MP55 casing systems are operating as intended and will provide useful data from longer-term monitoring rounds. The initial post-inflation pressure data provide only a very limited indication of actual long-term formation pressure conditions that will develop in boreholes DGR-1 and DGR-2.

4.4.1 DGR-1

Figure 4 shows a pre-inflation uniform environmental water head profile as would be expected under open hole conditions, and a dual-sloped fresh water head profile with an inflection point at a depth of about 275 mBGS. This fresh water head profile indicates a uniform but higher density fluid in the open borehole below 275 m depth than above this depth.

The post-inflation pressure profiles for DGR-1 show a significant change from open-hole pressures. The calculated fresh water and environmental water heads show elevated values in Zone 6 intersecting the Gasport, Lions Head and Fossil Hill Formations and in Zone 9 intersecting the Salina A1 and A0 Units. Pressures and calculated heads decrease both upward and downward from these high pressure zones.

4.4.2 DGR-2

Figure 5 also shows a pre-inflation uniform environmental water head profile as would be expected under open hole conditions, and a single-sloped fresh water head profile throughout the entire hole. This fresh water head profile indicates a uniform and high density fluid in the open borehole. This head profile and fluid density profile is consistent with the observation that the entire length of DGR-2 at the time of the pre-inflation pressure survey was filled with Cambrian sandstone brine with a fluid density of about 1165 g/L.

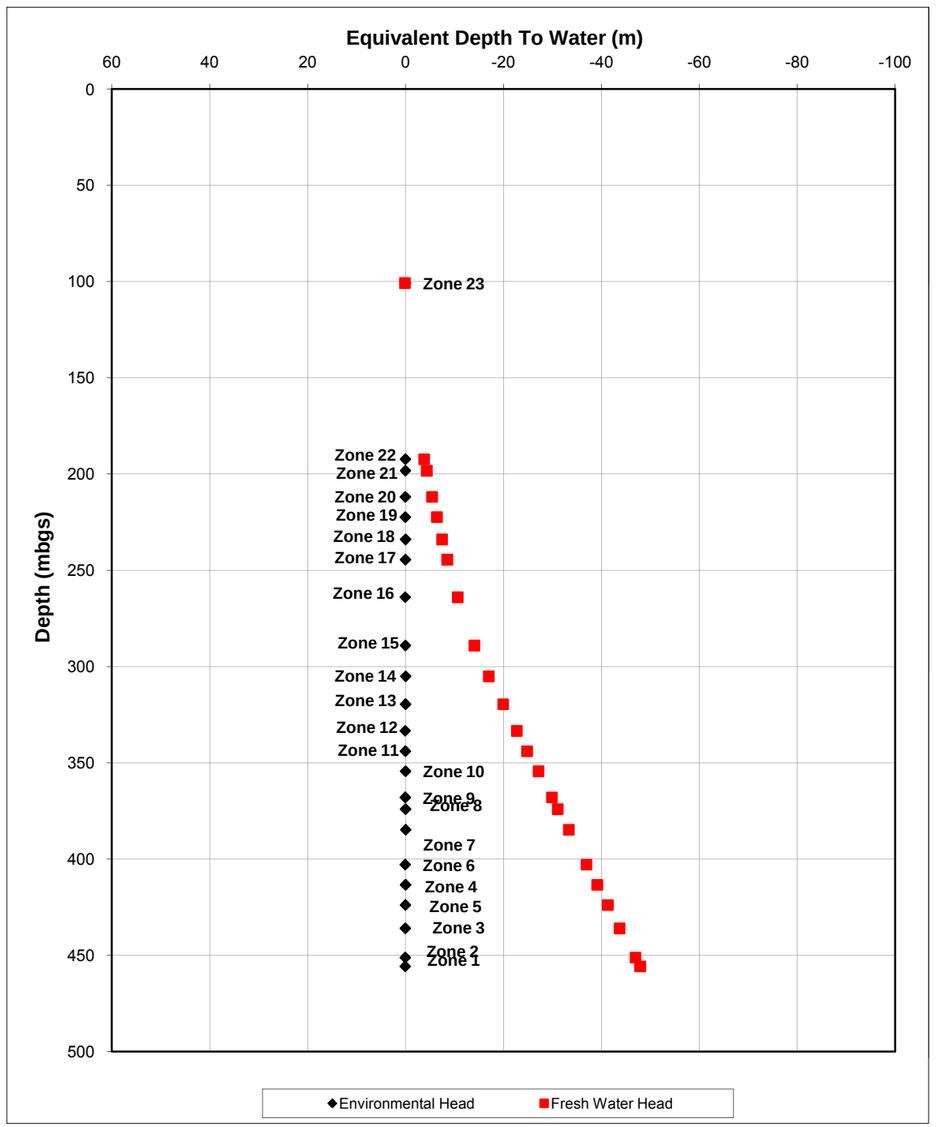
The post-inflation pressure profiles for DGR-2 show a significant change from open-hole pressures. The calculated fresh water and environmental water heads show elevated values in Zone 1 intersecting the Cambrian sandstone that propagate linearly upwards to Zone 6 intersecting the upper part of the Gull River Formation. Elevated pressures and heads are also shown for Zone 18 which intersects a suspected gas producing interval within the middle of the Georgian Bay Formation. Fresh water head heads for the remainder of the borehole are relatively uniform within +/- 15 m of ground surface, likely reflecting the several months of open-hole pressures that these formations were subjected to during drilling and testing of DGR-2.

5 Data Quality and Use

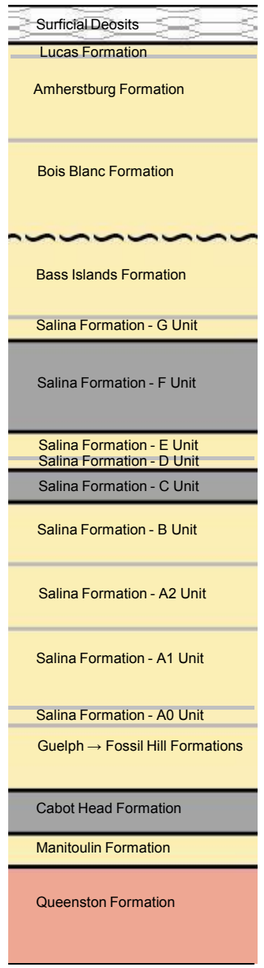
Data presented in this report describe the installation and completion of Westbay MP55 multilevel monitoring casings in boreholes DGR-1 and DGR-2 as well as the rationale for selection of multilevel monitoring intervals. Initial post-inflation pressure data obtained from these completions support the conclusion that the MP55 casing systems are operating as intended and that much longer monitoring periods, in the range of several months, will be required before meaningful and representative pressure data will be obtained from boreholes DGR-1 and DGR-2.

DGR-1

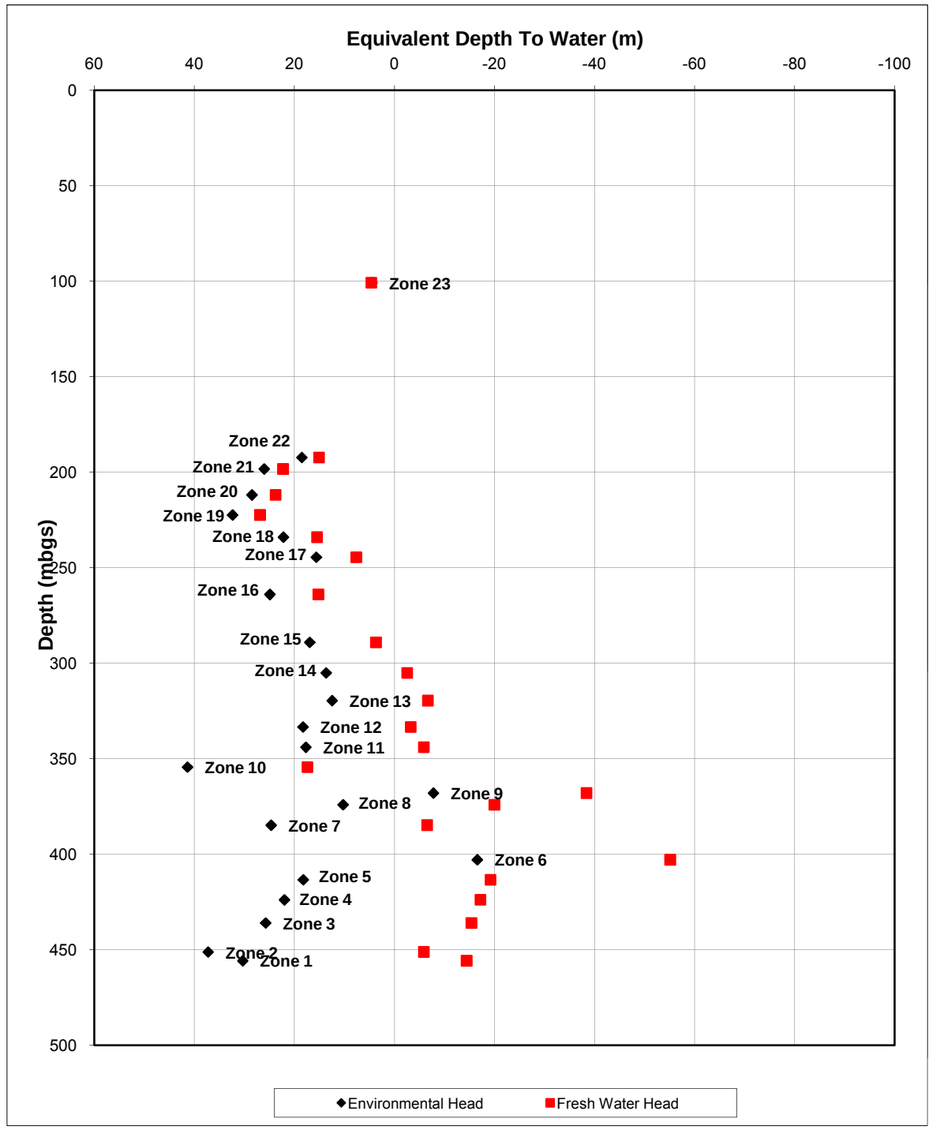
Pre-Inflation Profile
September 21, 2007



Bedrock Stratigraphy



Post-Inflation Profile
September 25, 2007



DGR-1 Pre- and Post-Inflation Pressure Profiles
TR-07-10: Westbay MP55 Casing Completions in DGR-1 and DGR-2

FIGURE 4	Doc No.: TR-07-10_DGR1 Pressure Profiles_R1.xls

Prepared by: SNG
Reviewed by: KGR
Date: 26-Oct-10

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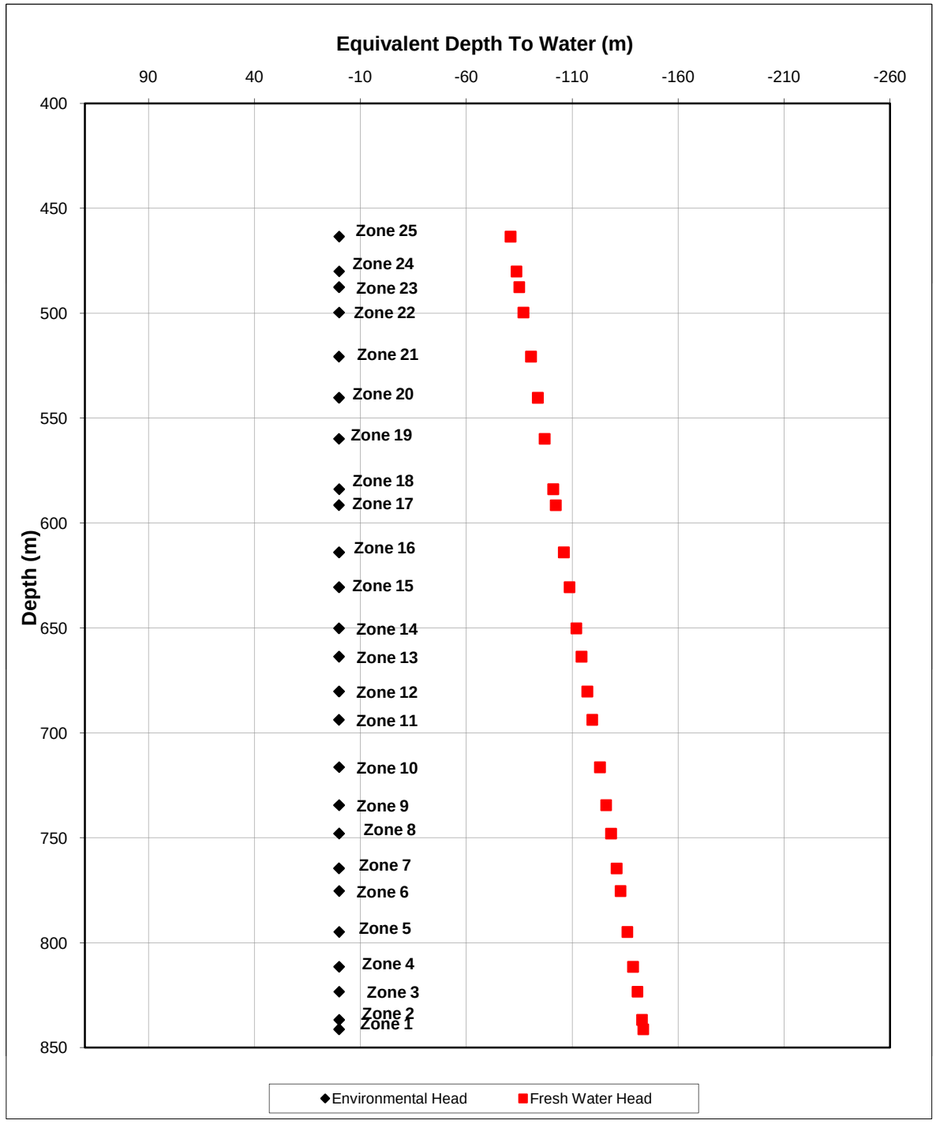
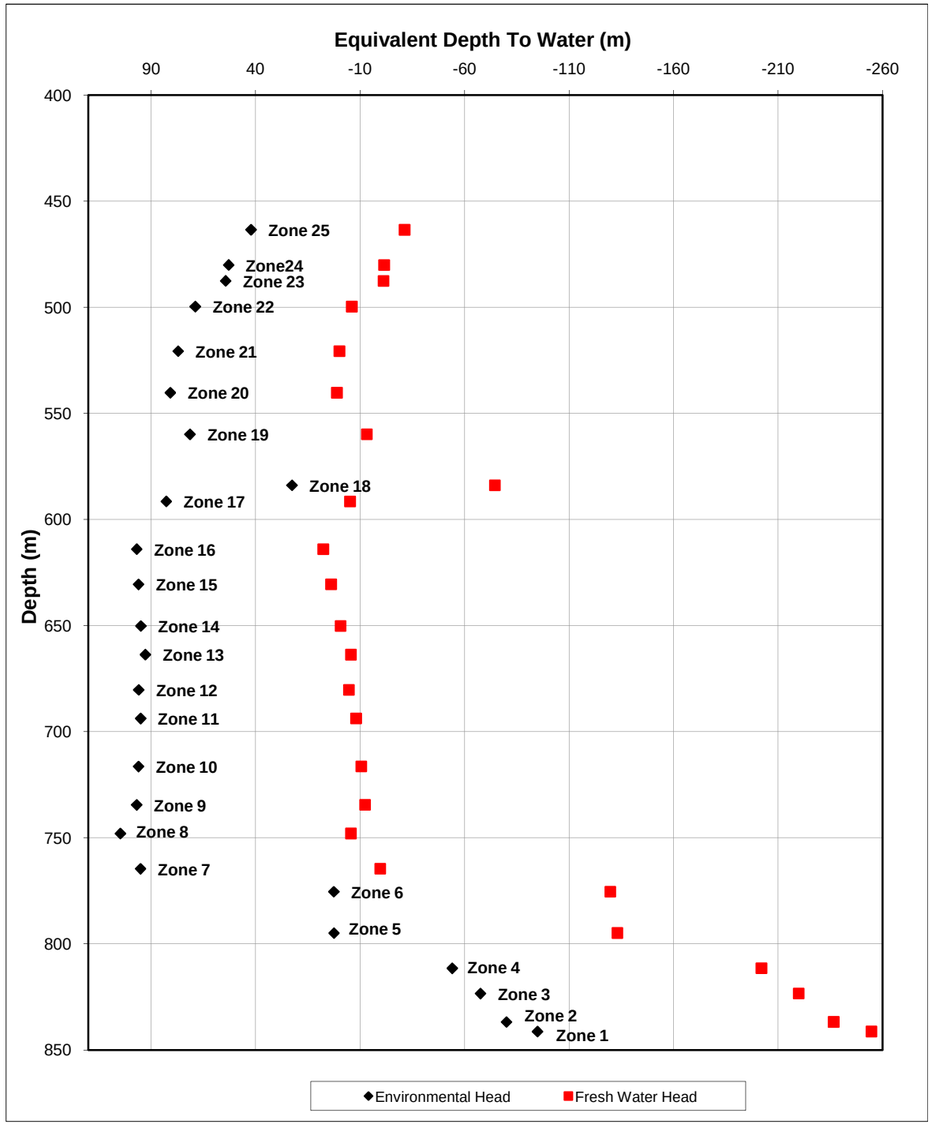
DGR-2

Pre-Inflation Profile
November 30, 2007



Bedrock Stratigraphy

Post-Inflation Profile
December 11 & 12, 2007



DGR-2 Pre- and Post-Inflation Pressure Profiles **TR-07-10: Westbay MP55 Casing Completions in DGR-1 and DGR-2**		Prepared by: SNG Reviewed by: KGR
FIGURE 5	Doc No.: TR-07-10_DGR2 Pressure Profiles_R1.xls	Date: 26-Oct-10

The data presented in this Technical Report are suitable for providing the framework for interpreting formation pressures and heads and groundwater samples that may be collected from such formations. These data will assist in development of Phase 1 geological, hydrogeological and geomechanical descriptive site models of the Bruce DGR site.

In June, 2009, after approximately 18 months of monitoring, the MP55 casing system in DGR-2 was removed and replaced with an upgraded system in early December, 2009. The installation of the upgraded and revised MP55 casing system in DGR-2 is described in TR-08-17 – Westbay MP55 Casing Completions in DGR-2, DGR-3 and DGR-4 (Intera Engineering Ltd., 2010f).

6 References

Intera Engineering Ltd., 2010a. Technical Report: Pressure and Head Monitoring in MP55 Casing Systems in DGR-1 to DGR-4, TR-08-31, Revision 0, in preparation, Ottawa.

Intera Engineering Ltd., 2010b. Technical Report: Bedrock Formations in DGR-1 and DGR-2, TR-07-05, Revision 3, May 18, Ottawa.

Intera Engineering Ltd., 2010c. Technical Report: Drilling, Logging and Sampling of DGR-1 and DGR-2, TR-07-06, Revision 1, June 17, Ottawa.

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APPENDIX A

Casing Installation Water Quality, DGR-1 and DGR-2

Table A.1 - Summary of Casing Installation Water Results for DGR-1 and DGR-2

Parameter Date Sampled>	MDL	Units	CIW-DGR1-02 18-Sep-07	CIW-DGR2-03 28-Nov-07
General Parameters				
pH	0.1	pH units	--	--
Total Dissolved Solids	NV	mg/L	162	151
Alkalinity (as $CaCO_3$)	2	mg/L	--	--
Fluid Density	NV	g/L	1002	1005
Na Fluorescein	0.01	µg/L	1023.5	1063.1
Major Cations				
Calcium	0.7	mg/L	>20	>20
Iron	0.01	mg/L	ND	ND
Magnesium	0.001	mg/L	6.67	7.47
Manganese	0.0001	mg/L	0.0008	0.0002
Potassium	0.03	mg/L	0.81	1.11
Silicon	0.2	mg/L	0.8	1.0
Sodium	0.005	mg/L	6.19	6.96
Strontium	0.00004	mg/L	0.112	0.115
Major Anions				
Bromide	0.003	mg/L	0.021	0.024
Chloride	0.03	mg/L	10.0	10.6
Fluoride	0.01	mg/L	0.05	0.06
Iodide	0.001	mg/L	ND	ND
Bicarbonate	1	mg/L	--	--
Carbonate	1	mg/L	--	--
Nitrate	0.01	mg/L	0.29	0.31
Nitrite	0.01	mg/L	ND	ND
Phosphate	0.02	mg/L	ND	ND
Sulphate	0.03	mg/L	16.4	16.2
Environmental Isotopes				
Tritium, ^{3}H	$\pm$ 8.0	TU	140.1	212.0
Deuterium, ^{2}H	$\pm$ 1.0	δD (‰)	-55.93	-55.39
Oxygen-18, ^{18}O	$\pm$ 1.5	$\delta^{18}O$ (‰)	-6.97	-6.78
Selected Trace Elements				
Aluminum	2	µg/L	ND	2
Antimony	0.01	µg/L	0.13	0.1
Arsenic	0.03	µg/L	0.45	0.49
Barium	0.1	µg/L	200	239
Beryllium	0.1	µg/L	ND	ND
Bismuth	0.3	µg/L	ND	ND
Cadmium	0.01	µg/L	0.02	0.03
Cesium	0.001	µg/L	0.002	ND
Chromium	0.5	µg/L	ND	ND
Cobalt	0.005	µg/L	0.014	0.022
Copper	0.2	µg/L	1.9	2.8
Gadolinium	0.001	µg/L	0.002	0.003
Gallium	0.01	µg/L	ND	ND
Lead	0.01	µg/L	0.03	0.02
Lithium	1	µg/L	1	1
Mercury	0.2	µg/L	ND	ND
Molybdenum	0.1	µg/L	0.2	0.5
Nickel	0.3	µg/L	0.6	ND
Rubidium	0.005	µg/L	0.465	0.462
Selenium	0.2	µg/L	ND	0.3
Thallium	0.001	µg/L	ND	0.001
Titanium	0.1	µg/L	0.2	3.2
Tungsten	0.02	µg/L	ND	ND
Uranium	0.001	µg/L	0.226	0.286
Vanadium	0.1	µg/L	ND	ND
Zinc	0.5	µg/L	45.4	83.2

Notes:

MDL = Method Detection Limit.

-- = Parameter not analyzed.

ND = Not detected above MDL.

APPENDIX B

Westbay Casing Completion Report – DGR-1

Westbay Instruments Inc.
3480 Gilmore Way, Suite 110
Burnaby, BC V5G 4Y1
Canada
Tel. (604) 430-4272
Fax (604) 430-3538

October 23, 2007
WB860

Mr. Ken Raven
Intera Engineering Ltd.
1 Raymond Street, Suite 200
Ottawa, On K1R 1A2
`

Subject: OPG Deep Geologic Repository Investigation Completion Report, Monitoring Well DGR-01 Tiverton, Ontario, Canada

Dear Mr. Raven,

This report summarizes the work carried out by Westbay Instruments Inc. related to installation of the MP System for groundwater monitoring in a 463 meter borehole at the Bruce Power Plant near Tiverton, Ontario.

It was a pleasure working with you and your field staff on this project. We look forward to working with you on this project in the future. Please call us if you have any questions.

Yours truly,

Andrew Bessant

Encl.: Completion Report – Monitoring Wells DGR-01. One bound copy.

stbay Instruments Inc.
3480 Gilmore Way, Suite 110
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Schlumberger WATER SERVICES

COMPLETION REPORT

Monitoring Well

DGR-01

OPG

Deep Geologic Repository Investigation

Ontario, Canada

Prepared for:

Intera Engineering Ltd.
Canada

Prepared by:

Westbay Instruments Inc.
WB860

October 24, 2007

CONTENTS

Appendix :

Monitoring Well DGR-01

1. Introduction

This report and the attached Appendix document the technical services carried out by Westbay Instruments Inc. under Intera Engineering Ltd. Purchase Order 06-219.30.30.05. The Westbay MP System for groundwater monitoring was installed in an open borehole at the OPG Deep Geologic Repository Investigation Underground Research Center near Tiverton, Ontario.

2. Personnel

Westbay Instruments representative Mr. Andrew Bessant was on-site to assist with the installation activities from September 18 to 25, 2007. Mr. Mark Lessard of Westbay was also on-site for training purposes. Ms. Karen Raven of Intera Engineering Ltd. was on-site to supervise the field activities. Additional support personnel were provided by Intera Engineering Ltd. to carry out the installation work.

3. Installation

3.1 Previous Activities

According to information provided by Ms Karen Raven of Intera Engineering Ltd., the borehole was drilled to a depth of approximately 463 meters in low-permeability sedimentary rock. Open-hole geophysical logging and hydraulic testing with a straddle packer apparatus were carried out by Intera Engineering Ltd. and others prior to the installation. The borehole was completed with mild steel 13 3/8 inch (339mm) I.D. casing placed to approximately 21m, and a 9 5/8 inch (244mm) I.D. casing placed to 183m. A summary sketch of the borehole construction details is included in the Appendix. A summary of the construction details of the borehole based on information provided by Intera is on Table 1 below.

Table 1 – Reported Borehole Construction Details

Borehole	Drilled Depth (m)	339mm casing to (m):	244mm casing to (m):	Number of Zones
DGR-01	463	21	183	23

At the time of installation the water level in DGR-01 was 8.53 m below datum. The datum for all measurements was the top of the concrete drill pad.

3.2 Preparation of Monitoring Well Design

The MP55 (0600 series) monitoring well was designed by Intera Engineering Ltd. in response to the program requirements of OPG. The proposed well design was sent to Westbay for review and a preliminary Casing Installation Log was prepared. The Casing

Installation Log was then reviewed with Intera and final modifications were made as required.

The monitoring well was configured with primary monitoring zones positioned according to the reported depths of the monitoring zones of interest. A Measurement Port coupling and associated Magnetic Location Collar were included in each of the monitoring zones to provide the capability to measure fluid pressures and collect fluid samples. The Measurement Port couplings were located below the upper packer in each zone. Hydraulic Pumping Port couplings were included in selected zones to provide purging and hydraulic conductivity testing capabilities.

Model 0612 Packers were placed in the open borehole (159mm) section of the borehole and a 0618 Packer was placed in the larger diameter (244mm) section. The MP55 Measurement Ports are Model 0605 (dual valve). Table 2 provides a summary of the installed Westbay components.

Table 2 – Summary of Installed MP Components

Monitoring Well	Packers (0612 / 0618)	Measurement Ports (0605)	Pumping Ports (0632)	Magnetic Collars (0608)
DGR-01	22 / 1	23	3	23

3.3 Layout of Westbay Casing Components

The Westbay System casing components were set out in order on racks near the borehole according to the sequence indicated on the Westbay Casing Installation Log. Each casing length was numbered beginning with the lowermost as an aid in confirming the proper sequence of components. The appropriate Westbay System coupling was attached to each piece of casing. The magnetic location collars were attached 0.93m below the top of the measurement port in each of the monitoring zones.

Each casing component was visually inspected, and serial numbers for each packer, measurement port coupling and pumping port coupling were recorded on the Casing Installation Log (field notes). The length of each Westbay casing section was measured by the Westbay representatives to check for gross dimensional errors and was entered into the Westbay Well Designer© computer file.

3.4 Lowering of Westbay Components

The Westbay Casing components were placed in the borehole in the sequence indicated on the Westbay Casing Installation Log (Appendix). Each casing joint was tested for a minimum of one minute at an internal pressure of 300 psi to confirm the integrity of the hydraulic seals. A record of each successful joint test and the placement of each casing component were noted on the Westbay Casing Installation Log. Geotextile filters were not placed over the Measurement Port couplings at the direction of Mr. Ken Raven.

The Westbay casing was lowered into the well by hand. Fluorescein labeled drinking water supplied by Intera was added to the Westbay casing when necessary to overcome buoyancy, to manage the suspended loads and for the joint tests.

3.5 Hydraulic Integrity Testing

After the Westbay casing string was lowered into the borehole, the water level inside the casing was monitored over-night to confirm the hydraulic integrity of the casing. The data from the hydraulic integrity test is shown on the first page of the Casing Installation Log (Appendix). The Data indicated that the Westbay casing was water tight.

3.6 Positioning of MP Components

After the components were lowered into the well and the hydraulic integrity of the Westbay casing had been confirmed, the Westbay casing string was positioned as shown on the Casing Installation Log. The Westbay casing string was supported in this position while packer inflation was carried out. Positioning of the Westbay casing components is based on the "nominal" lengths. The positioning calculations do not include allowances for borehole temperature or deviation effects. The attached figure titled “MOSDAX Transducer Position” provides information to correlate the position of a MOSDAX Transducer sensors to the reference position at the top of the Measurement Port. The attached figure titled “Dimensions of Packer Seals and Monitoring Zones” outlines the calculations used to determine the packer centerline depths and zone length. Summary Casing Logs, which show the final “as-built” locations of the components in the wells, are included in the Appendices.

3.7 Inflation of Westbay System Packers

The packers were inflated using Fluorescein labeled drinking water supplied by Intera. The packers were inflated in sequence beginning with the lowest. All of the packers in DGR-01 appeared to inflate successfully, with the exception of Packer 11 at a depth of 339.4m. The field operators observed that packer valve did not seal in the closed position. The packer inflation water drained into the Westbay casing, and therefore the packer did not remain inflated. Repeated attempts to correct this behavior were not successful. Mr. Sean Sterling decided to leave the packer as is and continue with the installation. The data for the inflation of each packer are provided on the MP Packer Inflation Records included in the Appendix.

3.8 De-Stressing of MP System Casing

Westbay’s procedure for de-stressing the MP casing was used to reduce the long-term load on the upper MP components. A summary of the de-stressing activities is documented on Table 3 below.

Table 3 - Summary of De-stressing Activities

Monitoring Well	Initial Hanging Weight, (kg / lbs)	Final Clamp-off Weight, (kg / lbs)	Total Movement at surface (cm).	Final Stick-up (m above datum)
DGR-01	346 / 780	89 / 200	11	1.18

The 'as-built' Packer and Port summary and the 'as-built' summary for all casing components are documented on Table 4 and 5 respectively in the Appendix. A sketch of the 'as-built' top of the Westbay installation is shown on the first page of each Summary Casing Log (Appendix).

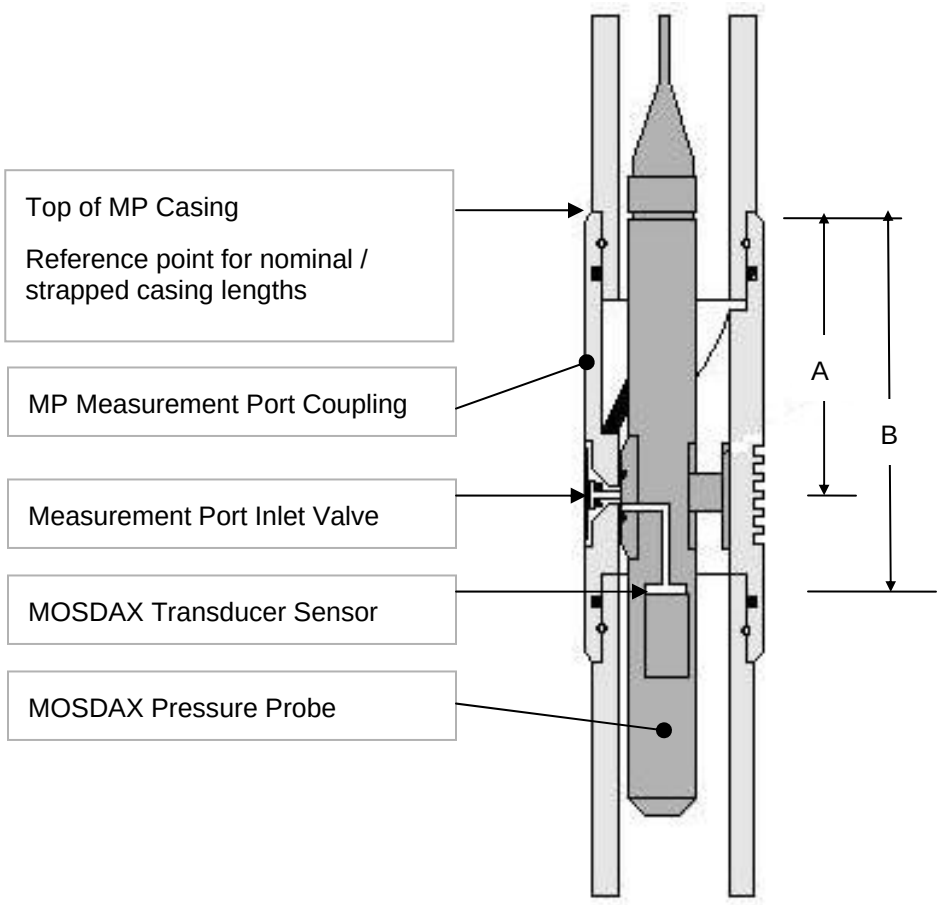
4. Fluid Pressure Measurements

Fluid pressures were measured at each measurement port before the packers were inflated. All Measurement Ports were operated successfully. The results are given in Westbay Piezometeric Pressures/Levels Pre-inflation Field Data and Calculations Sheet and Figure 2 in the Appendix. The fluid pressures were measured again following the inflation of the MP Packers. The results are given in Westbay Piezometeric Pressures/Levels Post-inflation Field Data and Calculations Sheet and Figure 3 in the Appendix.

Technical Note 21Oct07R2

MOSDAX Transducer Position

In an MP System Measurement Port Coupling

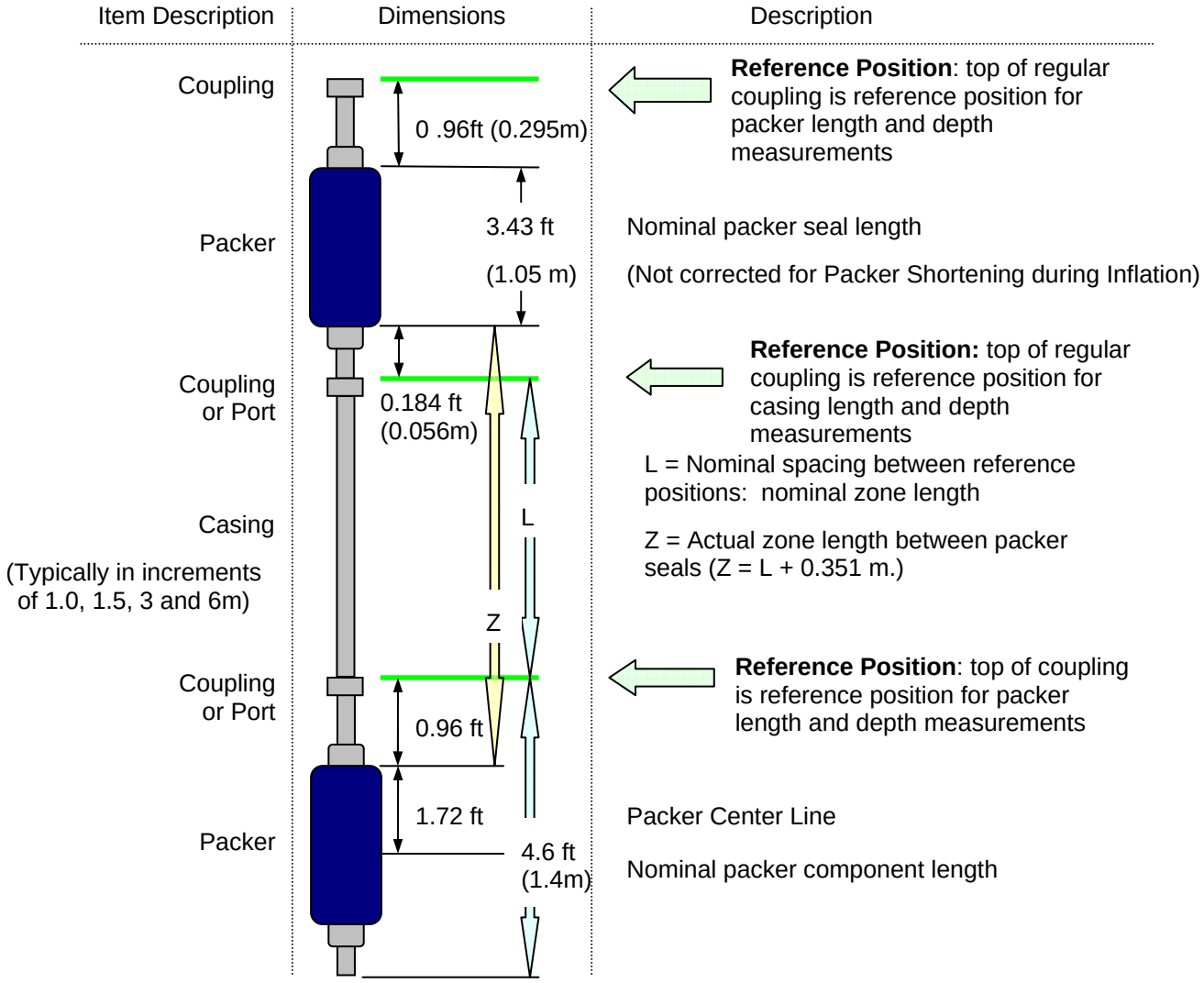


System	Measurement Port Type	A	B
Plastic MP55(2valve)	0605v4	6" (152.4 mm)	8" (203.2 mm)

AB, Oct 21, 2007

Dimensions of Packer Seals and Monitoring Zones

Westbay System – Plastic MP55 0612 Packers



Discussion Points:

- The top of a coupling (Regular Coupling, Measurement Port or Pumping Port) is the reference point for describing nominal depths and nominal lengths. Actual positions of packer seals and zone lengths are determined with respect to the appropriate reference positions.
- Packer Position Example: A packer with a nominal depth of 15 m (49.2ft), will have a nominal packer seal position of 15.295 to 16.345 m. (50.17 to 53.61ft)
- Zone Length Example: A zone whose upper packer is at 15m (49.2ft) and bottom packer is at 19.4m (63.6ft) will have a nominal zone length of 3m (9.84ft) and an actual zone length (between packer seals) of 3 +0.056 +0.295 = 3.351m. (9.84 + 0.96 + 0.1.84 = 10.984ft)
- Information on the position of Measurement Port Valve and MOSDAX Transducer sensor, used for detailed calculation of piezometric level measurements, are described separately.

Appendix - Monitoring Well DGR-01

Appendix - Monitoring Well DGR-01

Table 4
DGR-1 As-Built Packer and Port Summary

Port No.	OPG Zone	Measurement Port Depth, (m)	Pumping Port Depth, (m)	Depth to top of Packer, (m)	Top of Zone (m)	Bottom of Zone (m)	Comments
1	No. 1	455.8	No Pumping Port	452.9	454.3	462.0	
2	No. 2	451.2	No Pumping Port	448.3	449.7	452.9	
3	No. 3	436.0	445.1	433.1	434.5	448.3	
4	No. 4	423.9	No Pumping Port	419.5	420.9	433.1	
5	No. 5	413.4	No Pumping Port	409.0	410.4	419.5	
6	No. 6	402.9	No Pumping Port	398.5	399.9	409.0	
7	No. 7	384.8	No Pumping Port	380.4	381.8	398.5	
8	No. 8	374.1	377.2	369.7	371.1	380.4	
9	No. 9	368.0	No Pumping Port	363.6	365.0	369.7	
10	No. 10	354.4	No Pumping Port	350.1	351.5	363.6	
11	No. 11	344.0	No Pumping Port	339.6	341.0	350.1	
12	No. 12	333.4	No Pumping Port	329.0	330.4	339.6	
13	No. 13	319.6	325.8	315.2	316.6	329.0	
14	No. 14	305.1	No Pumping Port	300.7	302.1	315.2	
15	No. 15	289.1	No Pumping Port	284.7	286.1	300.7	
16	No. 16	264.0	No Pumping Port	259.6	261.0	284.7	
17	No. 17	244.5	No Pumping Port	240.1	241.5	259.6	
18	No. 18	234.0	No Pumping Port	229.6	231.0	240.1	
19	No. 19	222.4	No Pumping Port	218.0	219.4	229.6	
20	No. 20	211.9	No Pumping Port	207.5	208.9	218.0	
21	No. 21	198.3	No Pumping Port	193.9	195.3	207.5	
22	No. 22	192.3	No Pumping Port	189.4	190.8	193.9	
23	No. 23	100.8	No Pumping Port	97.4	99.3	189.4	

Note 1: All depth measurements in meters below datum (ground level).
Note 2: All depth measurements use 'Nominal' casing lengths and include slack-off.
Note 3: Not corrected for borehole deviation or borehole temperature effects.
Note 4: All depth measurements to upper edge of MP coupling item.

DGR-1 As-Built Casing Summary

Andrew Bessant, September 24, 2007

Item No.	Component P/N	Component S/N	Coupling P/N	Coupling S/N	Mag Collar (m)	Initial Depth (m)	Nominal Length (m)	Measured Length (m)	Initial Depth (m)	Final Position (m)	Movement (m)
175	603		602			-1.5	0.2	0.2	-1.5	-1.4	0.11
174	60110		602			-1.3	1	1	-1.3	-1.2	0.11
173	60115		602			-0.3	1.5	1.5	-0.3	-0.2	0.11
172	60130		602		0.93	1.2	3	3.004	1.2	1.3	0.11
171	60130		602			4.2	3	3.004	4.2	4.3	0.11
170	60130		602			7.2	3	3.004	7.2	7.3	0.11
169	60130		602			10.2	3	3.004	10.2	10.3	0.11
168	60130		602			13.2	3	3.004	13.2	13.3	0.11
167	60130		602			16.2	3	3.004	16.2	16.3	0.10
166	60130		602			19.2	3	3.004	19.2	19.3	0.10
165	60130		602			22.2	3	3.004	22.2	22.3	0.10
164	60130		602			25.2	3	3.004	25.2	25.3	0.10
163	60130		602			28.2	3	3.004	28.2	28.3	0.10
162	60130		602			31.2	3	3.004	31.2	31.3	0.10
161	60130		602			34.2	3	3.004	34.2	34.3	0.10
160	60130		602			37.2	3	3.004	37.2	37.3	0.10
159	60130		602			40.2	3	3.004	40.3	40.3	0.09
158	60130		602			43.2	3	3.004	43.3	43.3	0.09
157	60130		602			46.2	3	3.004	46.3	46.4	0.09
156	60130		602			49.2	3	3.004	49.3	49.4	0.09
155	60130		602			52.2	3	3.004	52.3	52.4	0.09
154	60130		602			55.2	3	3.004	55.3	55.4	0.09
153	60130		602			58.2	3	3.004	58.3	58.4	0.09
152	60130		602			61.2	3	3.004	61.3	61.4	0.09
151	60130		602			64.2	3	3.004	64.3	64.4	0.08
150	60130		602			67.2	3	3.004	67.3	67.4	0.08
149	60130		602			70.2	3	3.004	70.3	70.4	0.08
148	60130		602			73.2	3	3.004	73.3	73.4	0.08
147	60130		602			76.2	3	3.004	76.3	76.4	0.08
146	60130		602			79.2	3	3.004	79.3	79.4	0.08
145	60130		602			82.2	3	3.004	82.3	82.4	0.08
144	60130		602			85.2	3	3.004	85.3	85.4	0.08
143	60130		602			88.2	3	3.004	88.3	88.4	0.07
142	60130		602			91.2	3	3.004	91.3	91.4	0.07
141	60130		602			94.2	3	3.004	94.3	94.4	0.07
140	618	0618--050	602			97.2	2	1.94	97.3	97.4	0.04
139	60115		602			99.3	1.5	1.5	99.3	99.3	0.04
138	60115		605	1010	0.93	100.8	1.6	1.63	100.8	100.8	0.04
137	60130		602			102.4	3	3	102.4	102.4	0.04
136	60130		602			105.4	3	3	105.4	105.4	0.04
135	60130		602			108.4	3	3	108.4	108.4	0.04
134	60130		602			111.4	3	3	111.4	111.4	0.04
133	60130		602			114.4	3	3	114.4	114.4	0.04
132	60130		602			117.4	3	3	117.4	117.4	0.04
131	60130		602			120.4	3	3	120.4	120.4	0.04
130	60130		602			123.4	3	3	123.4	123.4	0.04
129	60130		602			126.4	3	3	126.4	126.4	0.04
128	60130		602			129.4	3	3	129.4	129.4	0.03
127	60130		602			132.4	3	3.004	132.4	132.4	0.03
126	60130		602			135.4	3	3.004	135.4	135.4	0.03
125	60130		602			138.4	3	3	138.4	138.4	0.03
124	60130		602			141.4	3	3	141.4	141.4	0.03
123	60130		602			144.4	3	3	144.4	144.4	0.03
122	60130		602			147.4	3	3	147.4	147.4	0.03
121	60130		602			150.4	3	3	150.4	150.4	0.03
120	60130		602			153.4	3	3	153.4	153.4	0.03
119	60130		602			156.4	3	3	156.4	156.4	0.03

DGR-1 As-Built Casing Summary

Andrew Bessant, September 24, 2007

Item No.	Component P/N	Component S/N	Coupling P/N	Coupling S/N	Mag Collar (m)	Initial Depth (m)	Nominal Length (m)	Measured Length (m)	Initial Depth (m)	Final Position (m)	Movement (m)
118	60130		602			159.4	3	3	159.4	159.4	0.03
117	60130		602			162.4	3	3	162.4	162.4	0.03
116	60130		602			165.4	3	3	165.4	165.4	0.03
115	60130		602			168.4	3	3	168.4	168.4	0.03
114	60130		602			171.4	3	3	171.4	171.4	0.03
113	60130		602			174.4	3	3	174.4	174.4	0.03
112	60130		602			177.4	3	3	177.4	177.4	0.03
111	60130		602			180.4	3	3	180.4	180.4	0.03
110	60130		602			183.4	3	3	183.4	183.4	0.02
109	60130		602			186.4	3	3	186.4	186.4	0.02
108	612	0612-581	602			189.4	1.4	1.4	189.4	189.4	0.00
107	60115		602			190.8	1.5	1.5	190.8	190.8	0.00
106	60115		605	1024	0.93	192.3	1.63	1.635	192.3	192.3	0.00
105	612	0612-582	602			194.0	1.4	1.4	193.9	193.9	0.00
104	60130		602			195.4	3	3	195.3	195.3	0.00
103	60130		605	1017	0.93	198.4	3.138	3.138	198.3	198.3	0.00
102	60130		602			201.5	3	3	201.5	201.5	0.00
101	60130		602			204.5	3	3	204.5	204.5	0.00
100	612	0612-575	602			207.5	1.4	1.4	207.5	207.5	0.00
99	60130		602			208.9	3	3	208.9	208.9	0.00
98	60130		605	1021	0.93	211.9	3.138	3.138	211.9	211.9	0.00
97	60130		602			215.0	3	3	215.0	215.0	0.00
96	612	0612-568	602			218.0	1.4	1.4	218.0	218.0	0.00
95	60130		602			219.4	3	3	219.4	219.4	0.00
94	60130		605	1011	0.93	222.4	3.138	3.138	222.4	222.4	0.00
93	60110		602			225.6	1	1	225.6	225.6	0.00
92	60130		602			226.6	3	3	226.6	226.6	0.00
91	612	0612-577	602			229.6	1.4	1.4	229.6	229.6	0.00
90	60130		602			231.0	3	3.004	231.0	231.0	0.00
89	60130		605	1019	0.93	234.0	3.138	3.138	234.0	234.0	0.00
88	60130		602			237.1	3	3	237.1	237.1	0.00
87	612	0612-579	602			240.1	1.4	1.4	240.1	240.1	0.00
86	60130		602			241.5	3	3	241.5	241.5	0.00
85	60130		605	1012	0.93	244.5	3.138	3.138	244.5	244.5	0.00
84	60130		602			247.6	3	3	247.6	247.6	0.00
83	60130		602			250.6	3	3	250.6	250.6	0.00
82	60130		602			253.6	3	3	253.6	253.6	0.00
81	60130		602			256.6	3	3	256.6	256.6	0.00
80	612	0612-576	602			259.6	1.4	1.4	259.6	259.6	0.00
79	60130		602			261.0	3	3	261.0	261.0	0.00
78	60130		605	1015	0.93	264.0	3.138	3.138	264.0	264.0	0.00
77	60115		602			267.2	1.5	1.5	267.2	267.2	0.00
76	60130		602			268.7	3	3	268.7	268.7	0.00
75	60130		602			271.7	3	3	271.7	271.7	0.00
74	60130		602			274.7	3	3	274.7	274.7	0.00
73	60130		602			277.7	3	3	277.7	277.7	0.00
72	60110		602			280.7	1	1	280.7	280.7	0.00
71	60130		602			281.7	3	3	281.7	281.7	0.00
70	612	0612-584	602			284.7	1.4	1.4	284.7	284.7	0.00
69	60130		602			286.1	3	3	286.1	286.1	0.00
68	60130		605	1023	0.93	289.1	3.138	3.138	289.1	289.1	0.00
67	60130		602			292.2	3	3	292.2	292.2	0.00
66	60110		602			295.2	1	1	295.2	295.2	0.00
65	60115		602			296.2	1.5	1.5	296.2	296.2	0.00
64	60130		602			297.7	3	3	297.7	297.7	0.00
63	612	0612-557	602			300.7	1.4	1.4	300.7	300.7	0.00
62	60130		602			302.1	3	3	302.1	302.1	0.00
61	60130		605	1016	0.93	305.1	3.138	3.138	305.1	305.1	0.00
60	60110		602			308.2	1	1	308.2	308.2	0.00

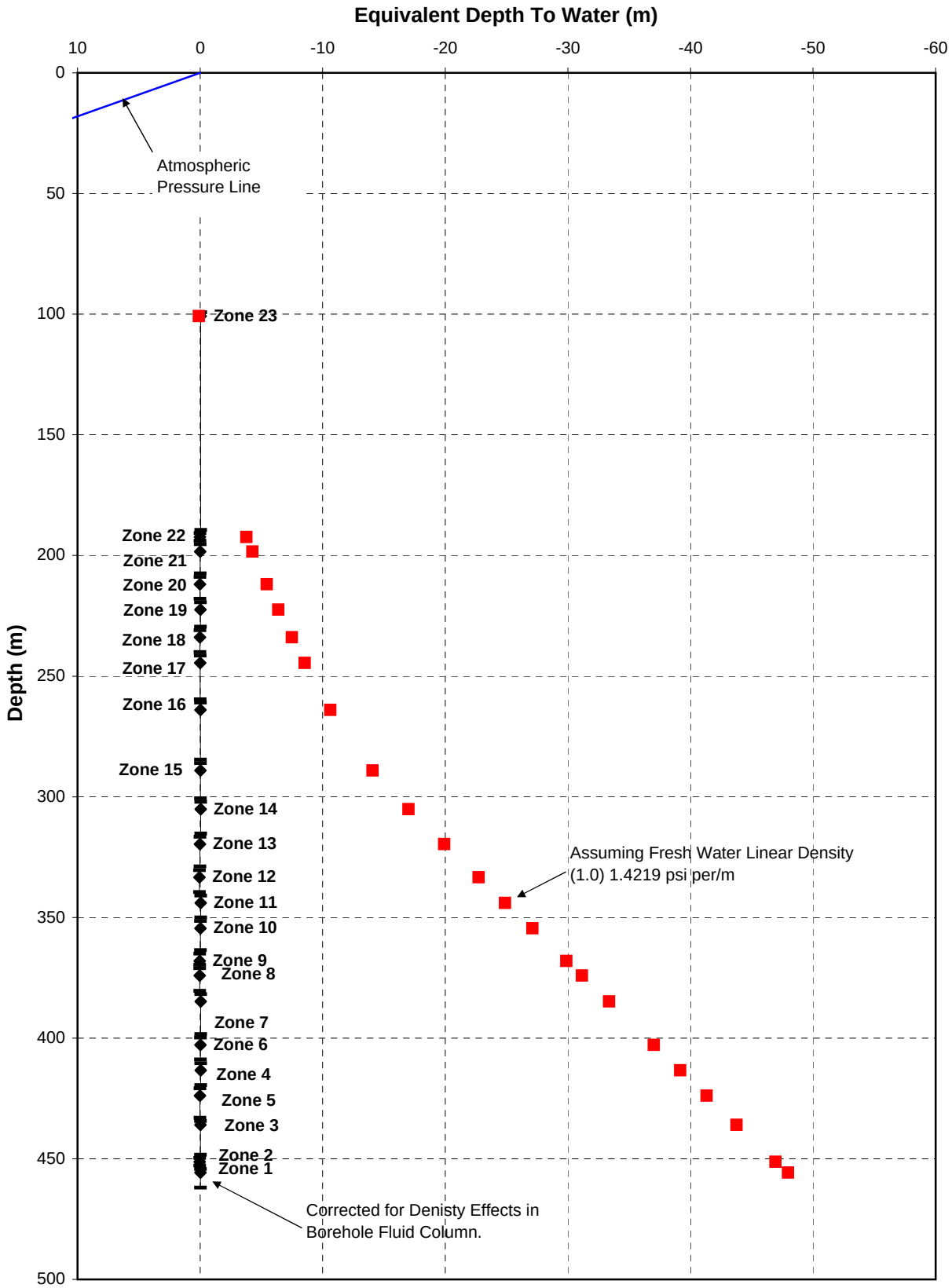
DGR-1 As-Built Casing Summary

Andrew Bessant, September 24, 2007

Item No.	Component P/N	Component S/N	Coupling P/N	Coupling S/N	Mag Collar (m)	Initial Depth (m)	Nominal Length (m)	Measured Length (m)	Initial Depth (m)	Final Position (m)	Movement (m)
59	60130		602			309.2	3	3	309.2	309.2	0.00
58	60130		602			312.2	3	3	312.2	312.2	0.00
57	612	0612-580	602			315.2	1.4	1.4	315.2	315.2	0.00
56	60130		602			316.6	3	3	316.6	316.6	0.00
55	60130		605	1020	0.93	319.6	3.138	3.138	319.6	319.6	0.00
54	60130		602			322.8	3	3	322.8	322.8	0.00
53	60130		607	273		325.8	3.226	3.226	325.8	325.8	0.00
52	612	0612-585	602			329.0	1.4	1.4	329.0	329.0	0.00
51	60130		602			330.4	3	3	330.4	330.4	0.00
50	60130		605	1013	0.93	333.4	3.138	3.138	333.4	333.4	0.00
49	60130		602			336.5	3	3	336.6	336.6	0.00
48	612	0612-573	602			339.5	1.4	1.4	339.6	339.6	0.00
47	60130		602			340.9	3	3	341.0	341.0	0.00
46	60130		605	1032	0.93	343.9	3.138	3.138	344.0	344.0	0.00
45	60130		602			347.1	3	3	347.1	347.1	0.00
44	612	0612-553	602			350.1	1.4	1.4	350.1	350.1	0.00
43	60130		602			351.5	3	3	351.5	351.5	0.00
42	60130		605	1033	0.93	354.5	3.138	3.138	354.5	354.5	0.00
41	60130		602			357.6	3	3	357.6	357.6	0.00
40	60130		602			360.6	3	3	360.6	360.6	0.00
39	612	0612-556	602			363.6	1.4	1.4	363.6	363.6	0.00
38	60130		602			365.0	3	3	365.0	365.0	0.00
37	60115		605	1034	0.93	368.0	1.63	1.63	368.0	368.0	0.00
36	612	0612-574	602			369.7	1.4	1.4	369.7	369.7	0.00
35	60130		602			371.1	3	3	371.1	371.1	0.00
34	60130		605	1035	0.93	374.1	3.138	3.138	374.1	374.1	0.00
33	60130		607	267		377.2	3.226	3.226	377.2	377.2	0.00
32	612	0612-571	602			380.4	1.4	1.4	380.4	380.4	0.00
31	60130		602			381.8	3	3	381.8	381.8	0.00
30	60130		605	1036	0.93	384.8	3.138	3.138	384.8	384.8	0.00
29	60115		602			387.9	1.5	1.5	388.0	388.0	0.00
28	60130		602			389.4	3	3	389.5	389.5	0.00
27	60130		602			392.4	3	3	392.5	392.5	0.00
26	60130		602			395.4	3	3	395.5	395.5	0.00
25	612	0612-586	602			398.4	1.4	1.4	398.5	398.5	0.00
24	60130		602			399.8	3	3	399.9	399.9	0.00
23	60130		605	1039	0.93	402.8	3.138	3.138	402.9	402.9	0.00
22	60130		602			406.0	3	3	406.0	406.0	0.00
21	612	0612-549	602			409.0	1.4	1.4	409.0	409.0	0.00
20	60130		602			410.4	3	3	410.4	410.4	0.00
19	60130		605	1038	0.93	413.4	3.138	3.138	413.4	413.4	0.00
18	60130		602			416.5	3	3	416.5	416.5	0.00
17	612	0612-572	602			419.5	1.4	1.4	419.5	419.5	0.00
16	60130		602			420.9	3	3	420.9	420.9	0.00
15	60130		605	1037	0.93	423.9	3.138	3.138	423.9	423.9	0.00
14	60130		602			427.1	3	3	427.1	427.1	0.00
13	60130		602			430.1	3	3	430.1	430.1	0.00
12	612	0612-562	602			433.1	1.4	1.4	433.1	433.1	0.00
11	60115		602			434.5	1.5	1.5	434.5	434.5	0.00
10	60130		605	1014	0.93	436.0	3.138	3.138	436.0	436.0	0.00
9	60130		602			439.1	3	3	439.1	439.1	0.00
8	60130		602			442.1	3	3	442.1	442.1	0.00
7	60130		607	274		445.1	3.226	3.226	445.1	445.1	0.00
6	612	0612-560	602			448.3	1.4	1.4	448.3	448.3	0.00
5	60115		602			449.7	1.5	1.5	449.7	449.7	0.00
4	60115		605	1022	0.93	451.2	1.63	1.635	451.2	451.2	0.00
3	612	0612-558	602			452.8	1.4	1.4	452.9	452.9	0.00
2	60115		602			454.2	1.5	1.5	454.3	454.3	0.00
1	60130		605	1018	0.93	455.7	3.138	3.138	455.8	455.8	0.00
0	603		602			458.9	0	0	458.9	458.9	0.00

Piezometric Profile:
Monitoring Well: DGR-01

Profile Date:Sept 21, 2007
Comments:Pre-Inflation Profile



Plot By:_AB_ Date:____
Checked By:____Date:____
Westbay Project:WB 860

Client:OPG
Site:Bruce, Ont
Datum:Ground Surface

Figure 1

Schlumberger
WATER SERVICES

1/2

Westbay Piezometric Pressures/Levels

Pre-Inflation Field Data and Calculation Sheet

Well No.: DGR-1
Datum:
Elev. G.S.:
Height of Westbay above G.S.:
Elev. top of Westbay Casing:
Reference Elevation:
Borehole angle:

Probe Type: MP55 - Sampler
Serial No.:
Probe Range:
Westbay Casing Type: MP 55

Date:
Client: OPG
Job No.: WB 860
Location: Bruce, Ont
Weather:
Operator: ML

Note: "Port position" in angled boreholes refer to position along drillhole. True depth (Dp) needs to be calculated using borehole angle and deviation data to calculate zone piezometric level (Dz).

Ambient Reading (P_{atm}) (pressure, temperature, time)
Start: 4:43 pm
Finish: 14.61 9.34°C
P_{atm} 14.61 psi

Port No.	Port Position From Log (m)	Port Position From Cable (m)	True Port Depth "Dp" (m)	Fluid Pressure Readings: Inside Casing (P1)	Fluid Pressure Readings: Outside Casing (P2)	Fluid Pressure Readings: Inside Casing (P1)	Probe Temp. (°C)	Time H:M:S	Pressure Head Outside Port (m) H = (P2-Patm)/w	Piez. Level Outside Port (m) Dz = Dp - H	Comments
1	455.7	454.5	—	501.48	730.84	501.48	13.61	3:21	503.7	-49.95	
2	451.21	449.7	—	495.03	722.94	495.01	13.86	3:28	498.2	-48.9	
3	435.95	434.4	—	473.27	696.70	473.27	13.80	3:31	479.7	-43.3	
4	423.91	422.5	—	456.06	676.11	456.07	13.68	3:34	465.2	-41.3	
5	413.38	411.9	—	441.08	658.10	441.07	13.36	3:37	452.5	-39.1	
6	402.84	401.4	—	426.01	640.05	426.04	13.07	3:40	439.8	-37.0	
7	384.81	383.4	—	400.33	609.20	400.33	12.87	3:43	418.1	-33.3	
8	374.04	372.8	—	385.98	590.76	385.00	12.70	3:46	405.2	-31.2	
9	368.01	366.7	—	376.39	580.37	376.38	12.47	3:49	397.9	-29.9	
10	354.47	353.2	—	357.07	557.17	357.07	12.27	3:51	381.6	-27.1	
11	343.94	342.8	—	342.04	539.03	342.04	11.82	3:55	368.8	-24.9	
12	333.40	332.2	—	327.00	520.97	327.02	11.72	3:58	356.1	-22.7	
13	319.64	318.4	—	307.37	497.41	307.39	11.53	4:01	339.5	-19.9	
14	305.10	304	—	286.65	472.60	286.64	11.26	4:03	322.1	-17.0	
15	289.07	288.0	—	263.79	445.66	263.77	10.79	4:11	303.1	-14.1	

Notes: w = 0.433 psi/ ft (1.422psi/m) of H_2O
H = pressure head of water in zone
Dz = piezometric level in zone
Dp = true depth of measurement port
Patm = atmospheric pressure

Schlumberger
WATER SERVICES

1/2

Westbay Piezometric Pressures/Levels

Pre-Inflation Field Data and Calculation Sheet

Well No.: DGR-1
Datum: _____
Elev. G.S.: _____
Height of Westbay above G.S.: _____
Elev. top of Westbay Casing: _____
Reference Elevation: _____
Borehole angle: _____

Probe Type: _____
Serial No.: _____
Probe Range: _____
Westbay Casing Type: MP 55

Date: _____
Client: OPG
Job No.: WB 860
Location: Bruce, Ont
Weather: _____
Operator: _____

Note: "Port position" in angled boreholes refer to position along drillhole. True depth (Dp) needs to be calculated using borehole angle and deviation data to calculate zone piezometric level (Dz).

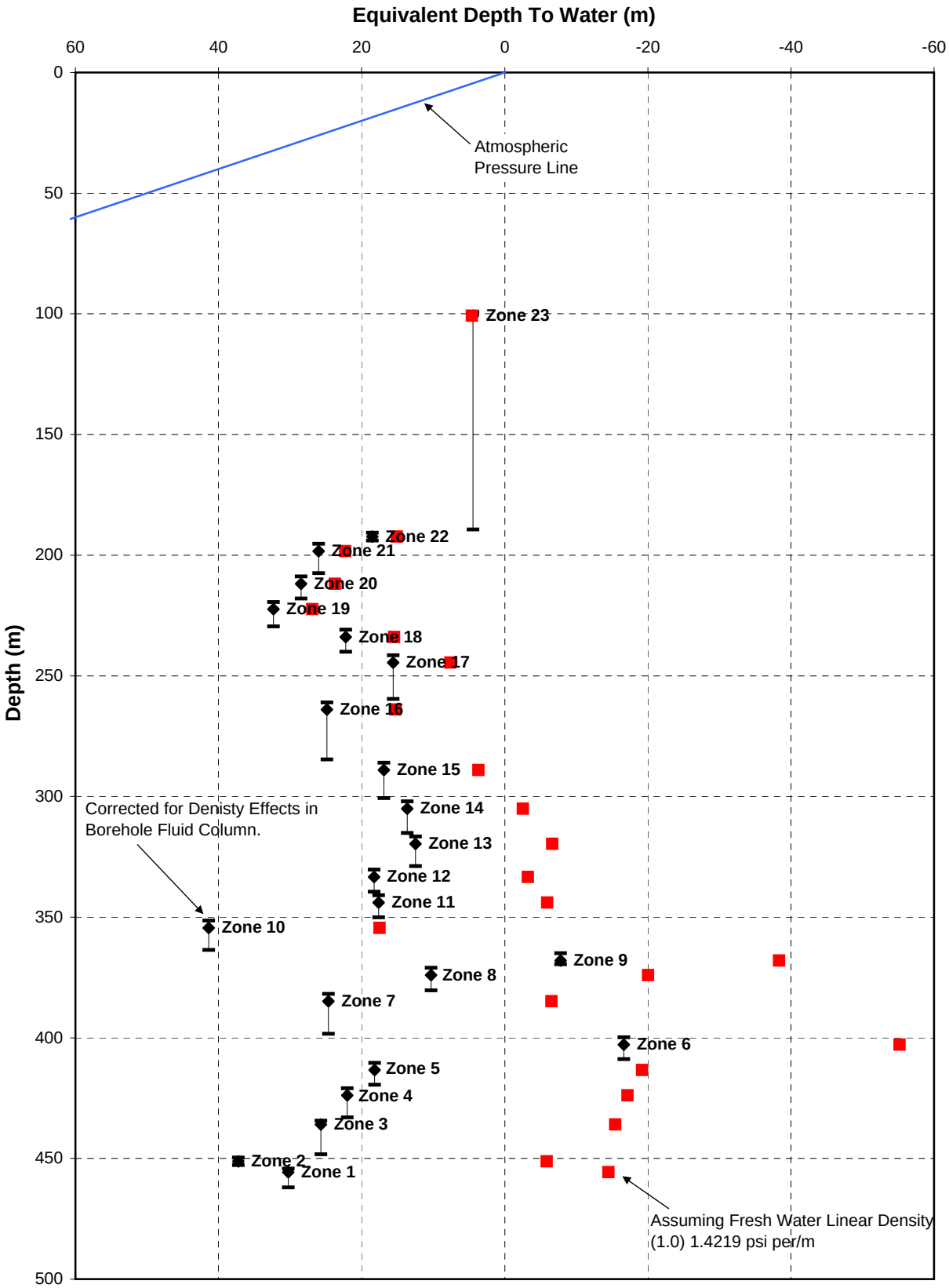
Ambient Reading (P_{atm}) (pressure, temperature, time)
Start: _____ Finish: _____
P_{atm} 14.61 psi

Port No.	Port Position From Log (m)	Port Position From Cable (m)	True Port Depth "Dp" (–)	Fluid Pressure Readings: Inside Casing (P1)	Fluid Pressure Readings: Outside Casing (P2)	Fluid Pressure Readings: Inside Casing (P1)	Probe Temp. (°C)	Time H:M:S	Pressure Head Outside Port (m) H = (P2-Patm)/w	Piez. Level Outside Port (Cm) Dz = Dp - H	Comments
16	264.03	263.1	–	228.09	405.14	228.09	10.57	4:16	274.6	-10.6	
17	244.49	243.6	–	200.26	374.39	200.24	10.26	4:19	253.0	-8.5	
18	233.96	233.1	–	185.19	357.93	185.17	10.01	4:22	241.4	-7.5	
19	222.42	221.6	–	168.73	339.95	168.73	9.84	4:25	228.8	-6.4	
20	211.88	211.1	–	153.74	323.63	153.74	9.77	4:28	217.3	-5.4	
21	199.35	197.6	–	134.41	302.73	134.42	9.64	4:30	202.6	-4.3	
22	192.31	191.6	–	125.83	293.43	125.83	9.47	4:32	196.1	-3.8	
23	100.77	100.3	–	14.79	157.77	14.81	9.25	4:38	100.7	0.1	
24											
25											
26											
27											
28											
29											
30											

Notes: w = 0.433 psi/ ft (1.422psi/m) of H_2O
H = pressure head of water in zone
Dz = piezometric level in zone
Dp = true depth of measurement port
Patm = atmospheric pressure

Piezometric Profile
Monitoring Well: DGR-01

Profile Date: Sept 25, 2007
Comments:Post Inflation Profile



Client:OPG
Site:Bruce, Ont
Datum: Ground Surface

Figure 2

Plot By:_AB__ Date:____
Checked By:____ Date:____
Westbay Project:WB 860

Schlumberger
WATER SERVICES

Westbay Piezometric Pressures/Levels

Post ~~Pre~~-Inflation Field Data and Calculation Sheet

Well No.: DGR-1
Datum:
Elev. G.S.:
Height of Westbay above G.S.:
Elev. top of Westbay Casing:
Reference Elevation:
Borehole angle:

Probe Type: Sampler
Serial No.: EMS 3554
Probe Range: 1000 psi
Westbay Casing Type: MP 55

Date: Sept 25/07
Client: OPG
Job No.: WB 860
Location: Bruce, Ont
Weather: Overcast / cool
Operator: ML / KR / NP

Note: "Port position" in angled boreholes refer to position along drillhole. True depth (Dp) needs to be calculated using borehole angle and deviation data to calculate zone piezometric level (Dz).

Ambient Reading (P_{atm}) (pressure, temperature, time)
Start: 14.48 psi Finish: 14.49 10.76°C
23.43 °C 10:27am P_{atm} 14.48 psi (101 kPa

Port No.	Port Position From Log (m)	Port Position From Cable (m)	True Port Depth "Dp" (m)	Fluid Pressure Readings: Inside Casing (P1)	Fluid Pressure Readings: Outside Casing (P2)	Fluid Pressure Readings: Inside Casing (P1)	Probe Temp. (°C)	Time H:M:S	Pressure Head Outside Port (m) H = (P2-Patm)/w	Piez. Level Outside Port (m) Dz = Dp - H	Comments
1	455.70	454.4	—	671.10	683.12	671.10	13.82	10:50	470.2	-14.5	
2	451.21	-4.9	—	664.19	664.40	664.19	14.01	11:01	457.0	-5.8	
3	435.95	-20.0	—	641.89	656.33	641.90	13.75	11:10	451.4	-15.45	
4	423.91	-32.0	—	624.34	641.67	624.35	13.48	11:16	441.1	-17.19	
5	413.38	-42.2	—	608.93	629.59	608.95	13.13	11:24	432.6	-19.22	
6	402.84	-53.0	—	593.52	665.75	593.55	12.77	11:34	458.0	-55.16	
7	384.81	-71.0	—	567.21	570.43	567.21	12.61	11:39	391.3	-6.5	
8	374.04	-81.5	—	551.34	574.83	551.37	12.41	11:44	394.1	-20.0	
9	368.01	-88	—	542.47	592.31	542.47	12.28	11:47	406.4	-38.3	
10	354.47	-102	—	522.73	493.66	522.68	12.10	11:53	337.0	17.5	
11	343.94	-112	—	507.09	511.96	507.09	11.91	11:58	349.8	-5.9	
12	333.40	-122	—	491.56	493.67	491.54	11.69	12:01	336.6	-3.2	
13	319.64	-136	—	471.25	478.44	471.26	11.45	12:05	326.3	-6.6	
14	305.10	-151	—	450.20	451.93	450.20	11.20	12:08	307.6	-2.5	
15	289.07	-167	—	427.09	420.30	427.14	10.96	12:11	285.4	3.7	

Notes: w = 0.433 psi/ ft (1.422psi/m) of H_2O Dz = piezometric level in zone Patm = atmospheric pressure
H = pressure head of water in zone Dp = true depth of measurement port

Schlumberger
WATER SERVICES

Westbay Piezometric Pressures/Levels

Post ~~Pre~~-Inflation Field Data and Calculation Sheet

Well No.: DGR-1
Datum:
Elev. G.S.:
Height of Westbay above G.S.:
Elev. top of Westbay Casing:
Reference Elevation:
Borehole angle:

Probe Type:
Serial No.:
Probe Range:
Westbay Casing Type: MP 55

valve: closed

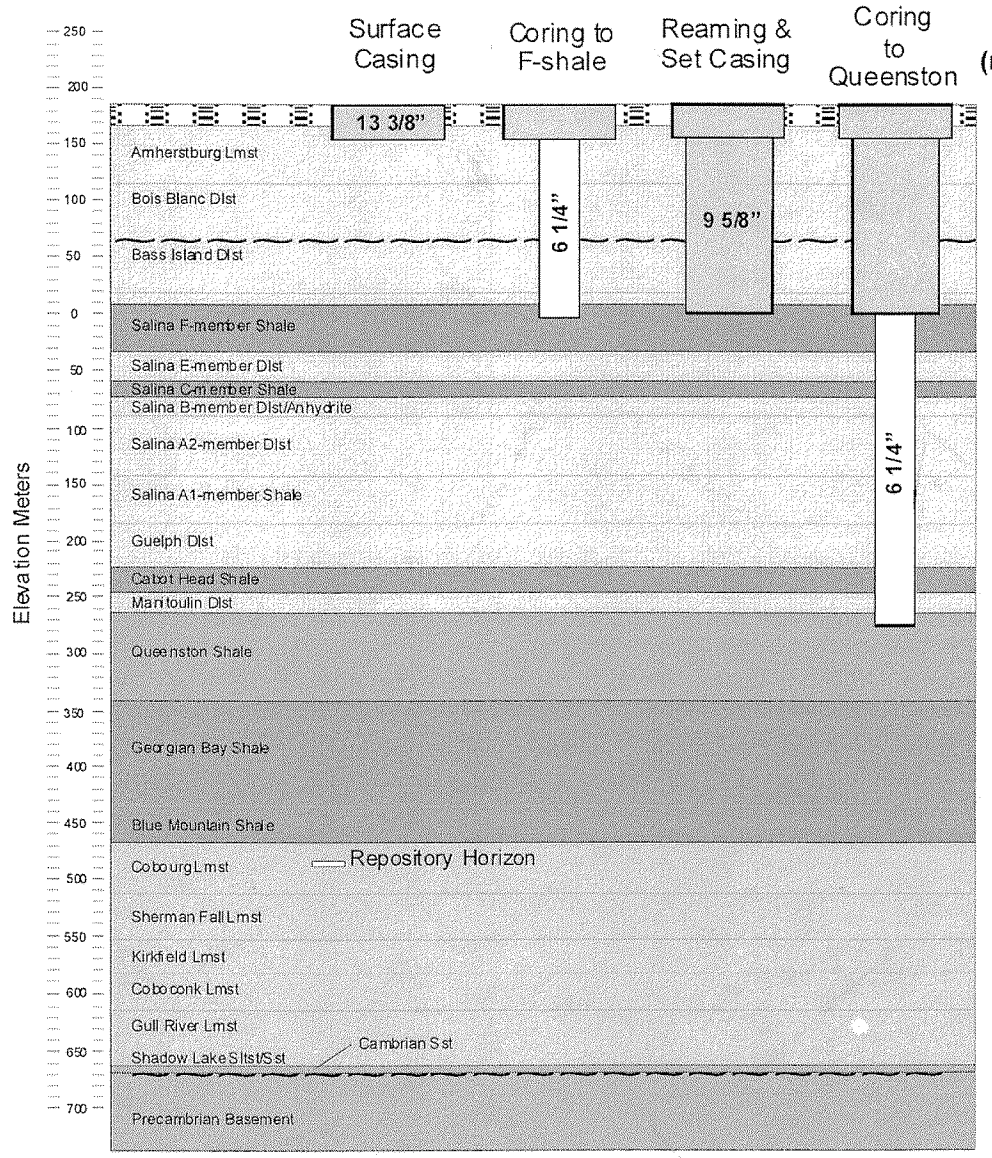
Date: Sept 25/07
Client: OPG
Job No.: WB 860
Location: Bruce, Ont
Weather:
Operator:

Note: "Port position" in angled boreholes refer to position along drillhole. True depth (Dp) needs to be calculated using borehole angle and deviation data to calculate zone piezometric level (Dz).

Ambient Reading (P_{atm}) (pressure, temperature, time)
Start: Finish:
P_{atm} 16.48 psi

Port No.	Port Position From Log (m)	Port Position From Cable (m)	True Port Depth "Dp" (m)	Fluid Pressure Readings			Probe Temp. (°C)	Time H:M:S	Pressure Head Outside Port (m) H = (P2-Patm)/w	Piez. Level Outside Port (Cm) Dz = Dp - H	Comments
				Inside Casing (P1)	Outside Casing (P2)	Inside Casing (P1)					
16	264.03	-191	—	391.23	368.24	391.24	10.43	12:20	248.8	15.3	
17	244.49	-211	—	363.19	351.3	363.16	9.97	12:24	236.9	7.6	
18	233.96	-221	—	348.01	325.20	347.99	9.84	12:29	218.5	15.5	
19	222.42	-233	—	331.41	298.51	331.41	9.66	12:33	195.5	26.9	
20	211.88	-243	—	316.31	282.01	316.27	9.46	12:37	188.1	23.7	
21	198.35	-257	—	296.87	264.80	296.83	9.28	12:41	176.0	22.3	
22	192.31	-263	—	288.15	286.50	288.15	9.07	12:44	177.2	15.1	
23	100.77	-353	—	157.44	151.25	157.45	8.60	12:55	96.2	4.6	
24											
25											
26											
27											
28											
29											
30											

Notes: w = 0.433 psi/ ft (1.422psi/m) of H_2O
H = pressure head of water in zone
Dz = piezometric level in zone
Dp = true depth of measurement port
Patm = atmospheric pressure



DGR-1 Drilling Sequence

Hole diam (inch)	Hole diam (mm)	Casing (inch)	Casing (mm)
17 ½"	445 mm	13 3/8"	340 mm
12 ¼"	318 mm	9 5/8"	245 mm
6 ¼"	160 mm		

INTERA

Figure 5

Summary Casing Log

Company: Intera - OPG
Well: DGR-1
Site: Bruce Site
Project: GSCP

Job No: WB860
Author: DL

Well Information

Reference Datum:
Elevation of Datum: 0.00 m.
MP Casing Top: 0.00 m.
MP Casing Length: 459.11 m.

Borehole Depth: 460.00 m.
Borehole Inclination: Vertical
Borehole Diameter: 152.00 mm

Well Description:
Plastic MP55
Other References:
After Intera Draft 0A and Rev Aug 30

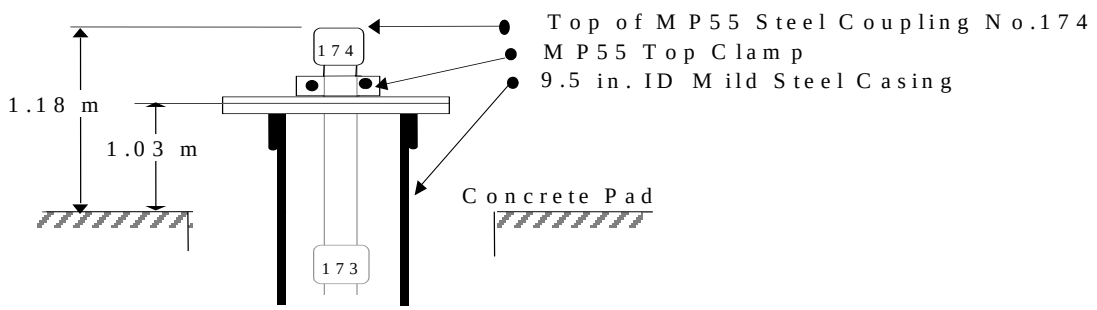
File Information

File Name: DGR1-D2.WWD
Report Date: Thu Oct 18 09:58:47 2007

File Date: Sep 26 08:05:11 2007

Sketch of Wellhead Completion

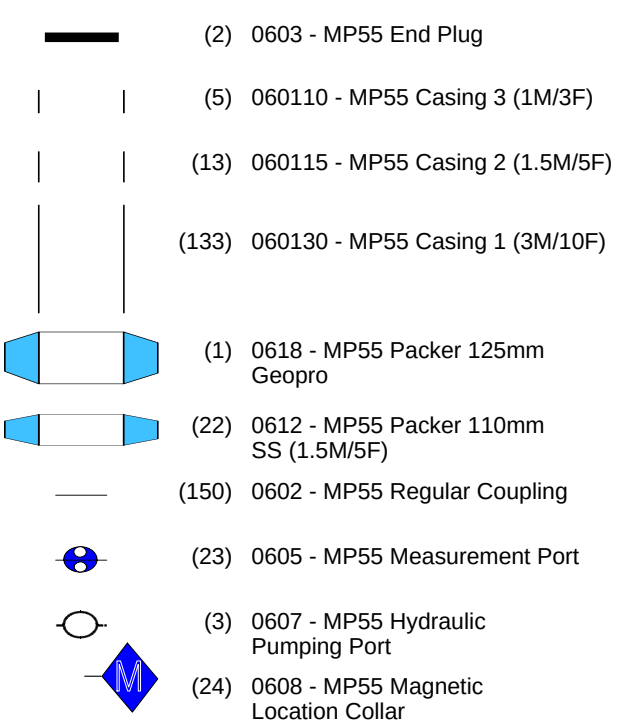
DGR-01 Surface Completion
(before attachment of monopod bracket)



Legend

(Qty) MP Components

(Library - WD Library 7/27/00)



(2) 0603 - MP55 End Plug

(5) 060110 - MP55 Casing 3 (1M/3F)

(13) 060115 - MP55 Casing 2 (1.5M/5F)

(133) 060130 - MP55 Casing 1 (3M/10F)

(1) 0618 - MP55 Packer 125mm Geopro

(22) 0612 - MP55 Packer 110mm SS (1.5M/5F)

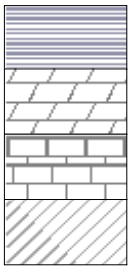
(150) 0602 - MP55 Regular Coupling

(23) 0605 - MP55 Measurement Port

(3) 0607 - MP55 Hydraulic Pumping Port

(24) 0608 - MP55 Magnetic Location Collar

Geology



Shale

Dolomite

Limestaone Bedded

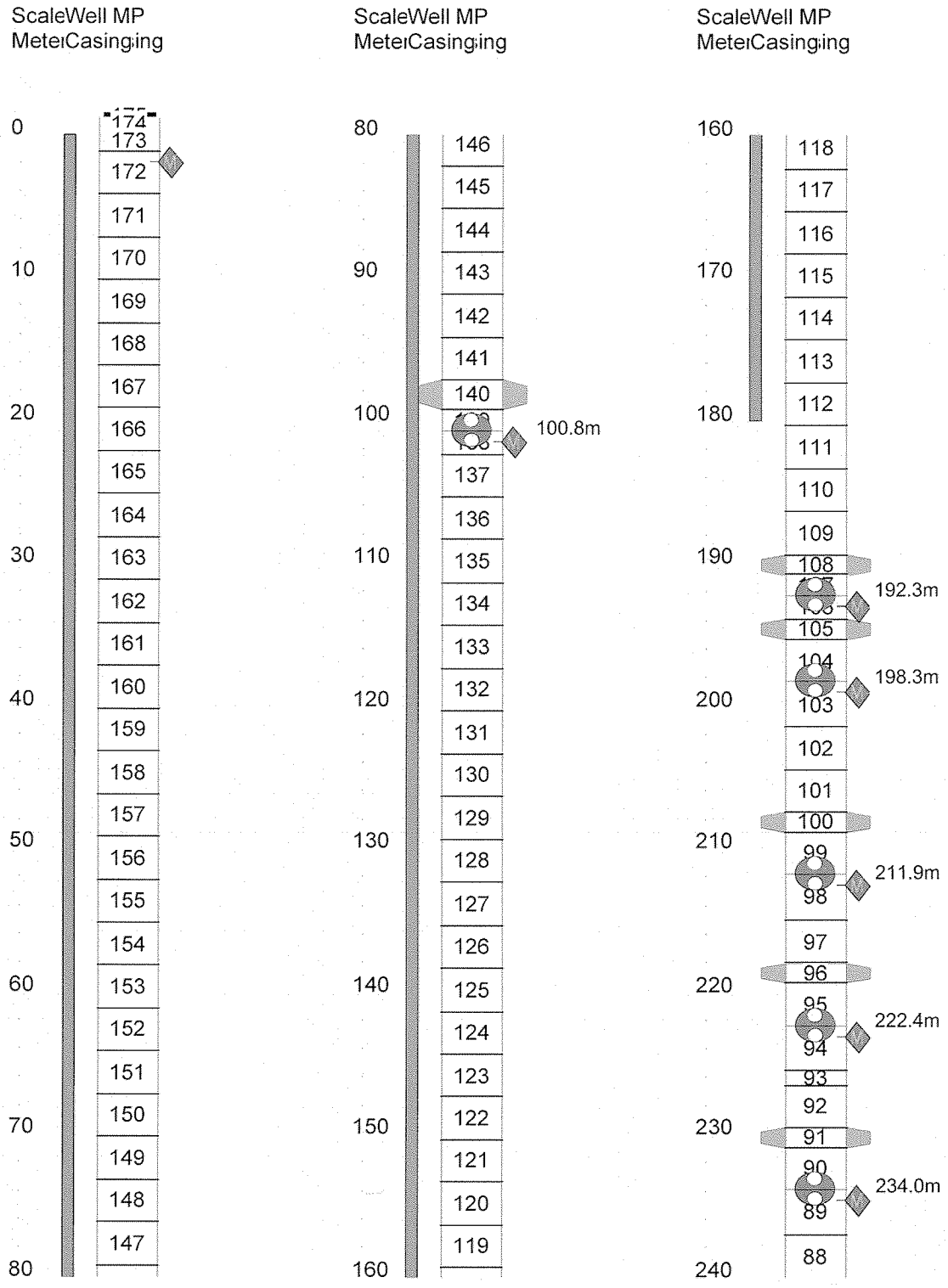
Gypsum

Backfill/Casing

Mild Steel

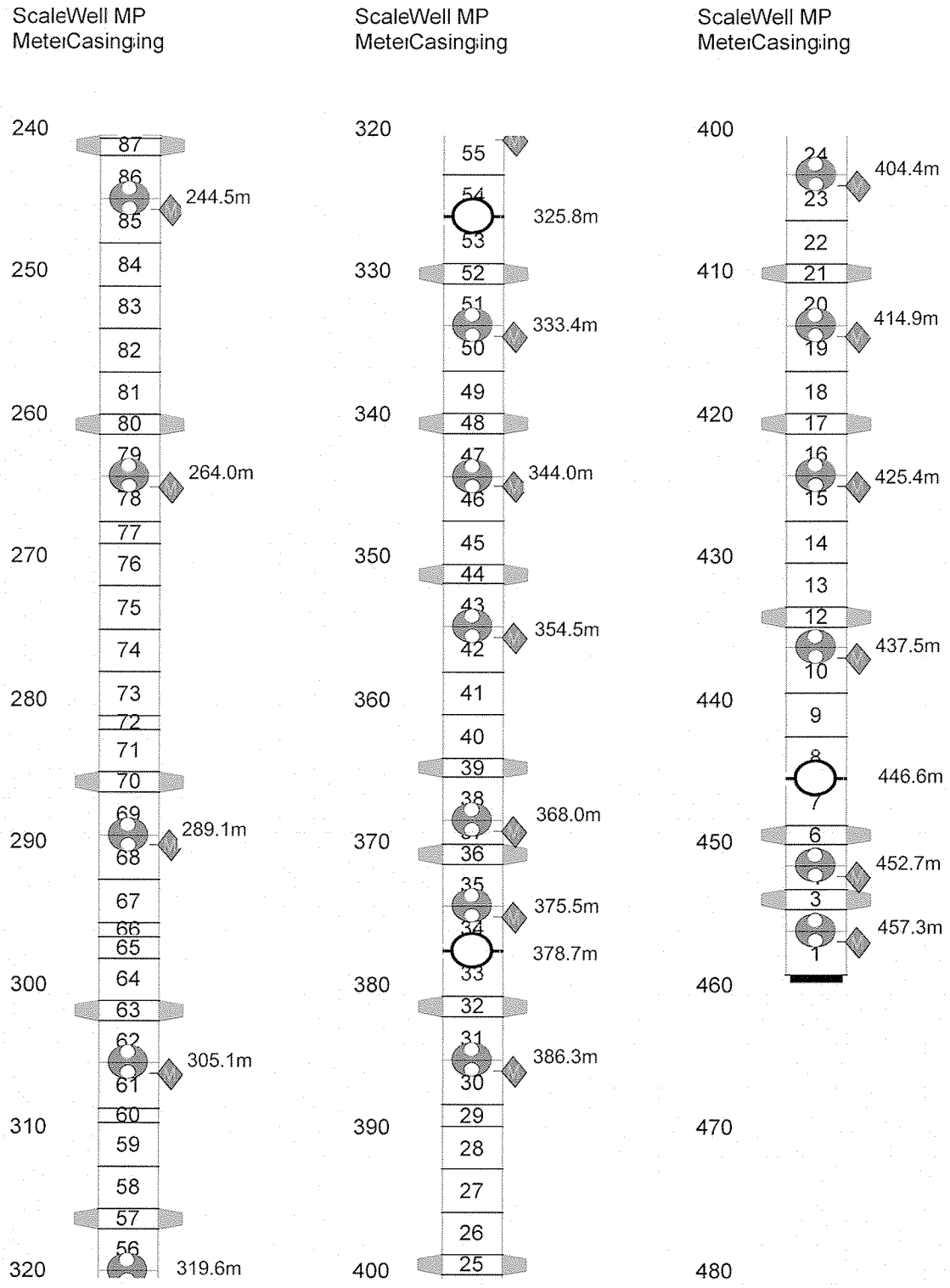
Summary Casing Log
Intera - OPG

Job No: WB860
Well: DGR-1



Summary Casing Log
Intera - OPG

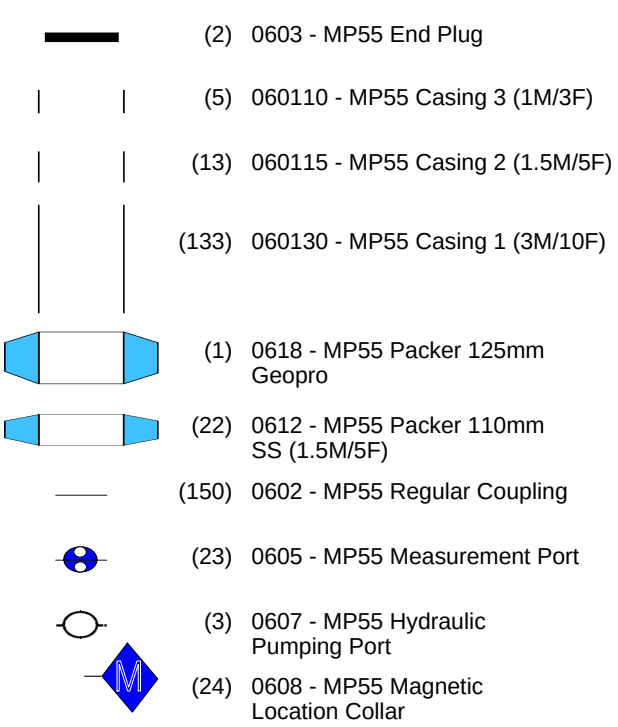
Job No: WB860
Well: DGR-1



Legend

(Qty) MP Components

(Library - WD Library 7/27/00)



(2) 0603 - MP55 End Plug

(5) 060110 - MP55 Casing 3 (1M/3F)

(13) 060115 - MP55 Casing 2 (1.5M/5F)

(133) 060130 - MP55 Casing 1 (3M/10F)

(1) 0618 - MP55 Packer 125mm Geopro

(22) 0612 - MP55 Packer 110mm SS (1.5M/5F)

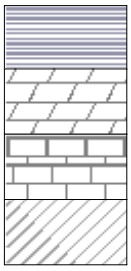
(150) 0602 - MP55 Regular Coupling

(23) 0605 - MP55 Measurement Port

(3) 0607 - MP55 Hydraulic Pumping Port

(24) 0608 - MP55 Magnetic Location Collar

Geology



Shale

Dolomite

Limestaone Bedded

Gypsum

Backfill/Casing

Mild Steel

Summary Casing Log

Company: Intera - OPG
Well: DGR-1
Site: Bruce Site
Project: GSCP

Job No: WB860
Author: DL

Well Information

Reference Datum:
Elevation of Datum: 0.00 m.
MP Casing Top: 0.00 m.
MP Casing Length: 459.11 m.

Borehole Depth: 460.00 m.
Borehole Inclination: Vertical
Borehole Diameter: 152.00 mm

Well Description:
Plastic MP55
Other References:
After Intera Draft 0A and Rev Aug 30

File Information

File Name: DGR1-D2.WWD
Report Date: Wed Sep 19 04:47:32 2007

File Date: Sep 11 11:50:00 2007

Comments

Ø = TOC / STEEL 10" 0.98 m ABOVE GRAVEL PAD
No Socks
DTW = 9.56 m

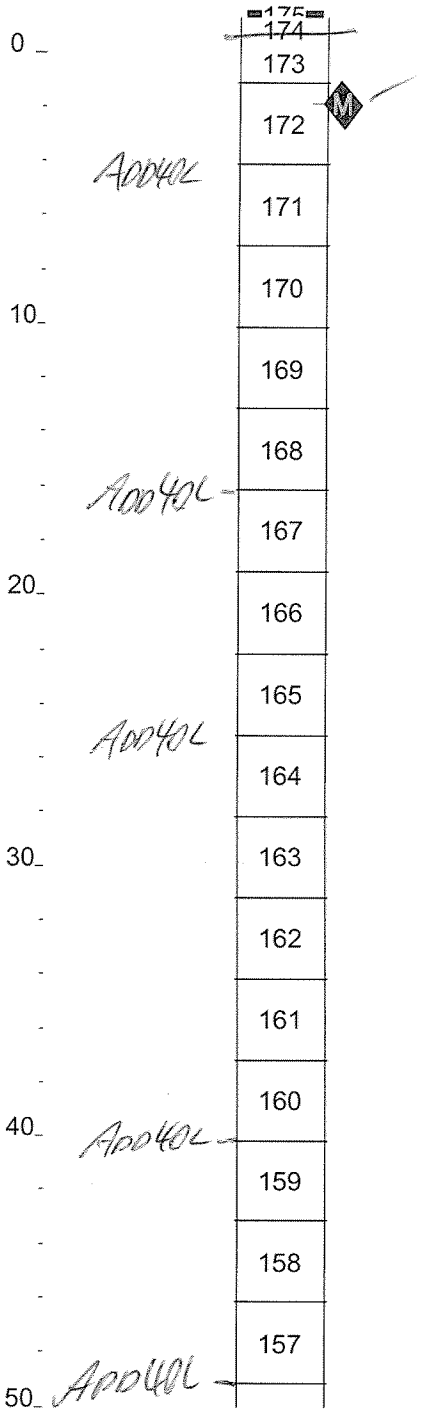
Log Information

Borehole condition confirmed.	(method) Geophysics	Date:	N/A
MP well design & preparation.	By: AB Lm	Date:	18/09/07
MP well design checked.	By: AB Lm	Date:	18/09/07
MP well and borehole approved to install.	By:	Date:	18/09/07

Casing Installation Log
Intera - OPG

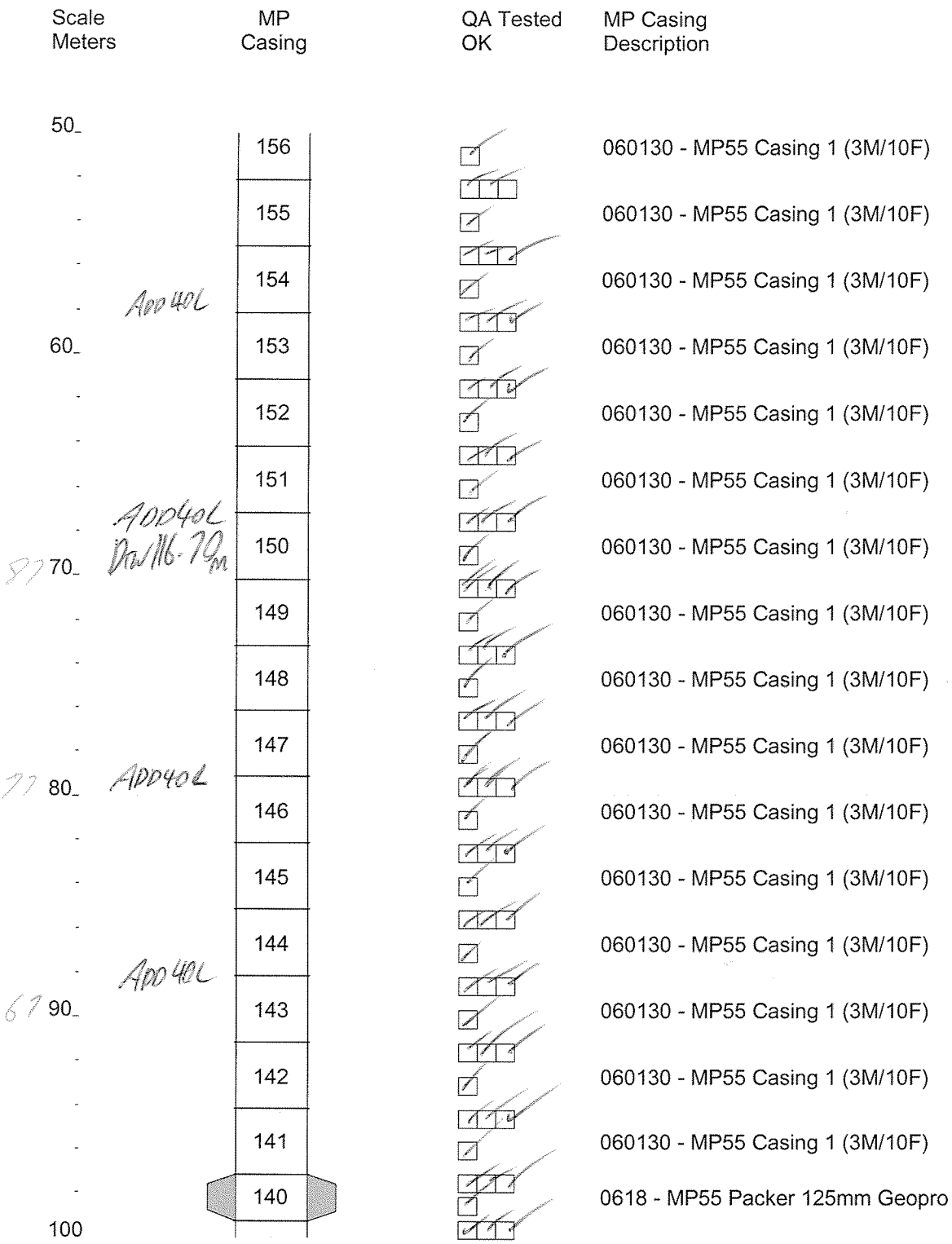
Job No: WB860
Well: DGR-1

HYDRAULIC INTEGRITY TEST
115.96 @ 6:00pm
115.94 @ 9:00am



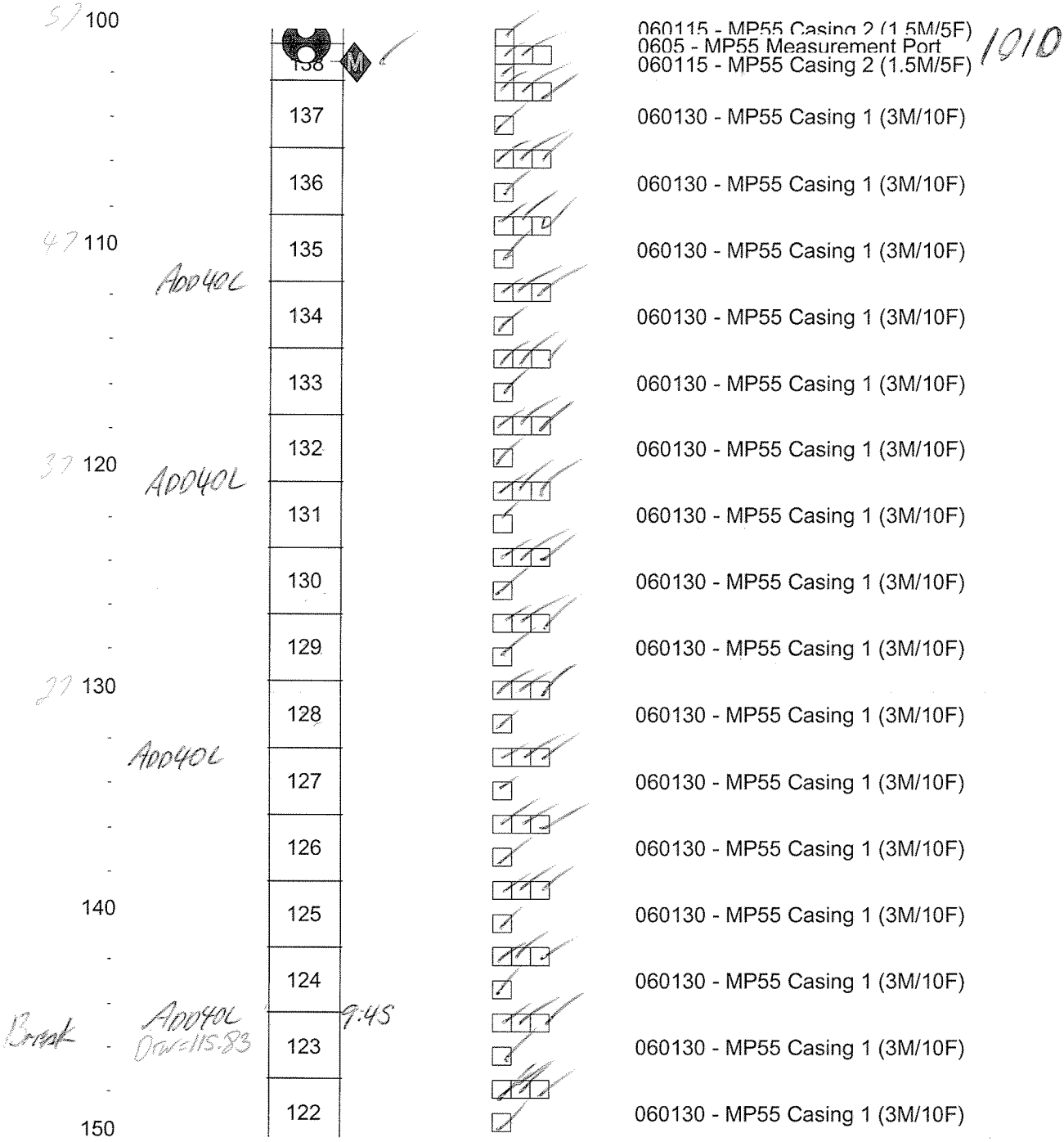
Casing Installation Log
Intera - OPG

Job No: WB860
Well: DGR-1



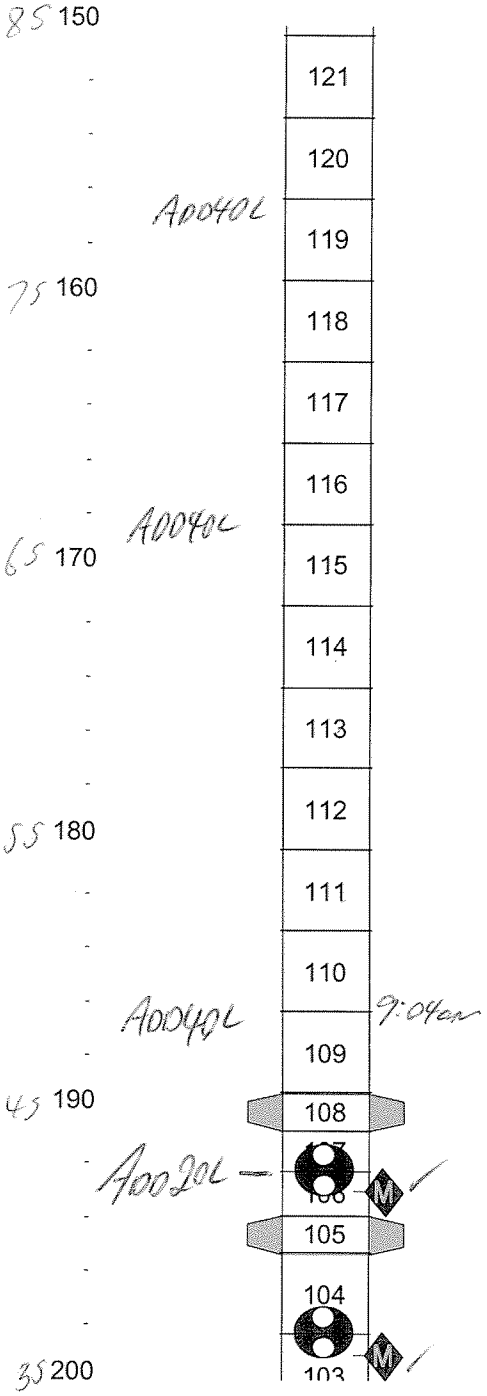
Casing Installation Log
Intera - OPG

Job No: WB860
Well: DGR-1



Casing Installation Log
Intera - OPG

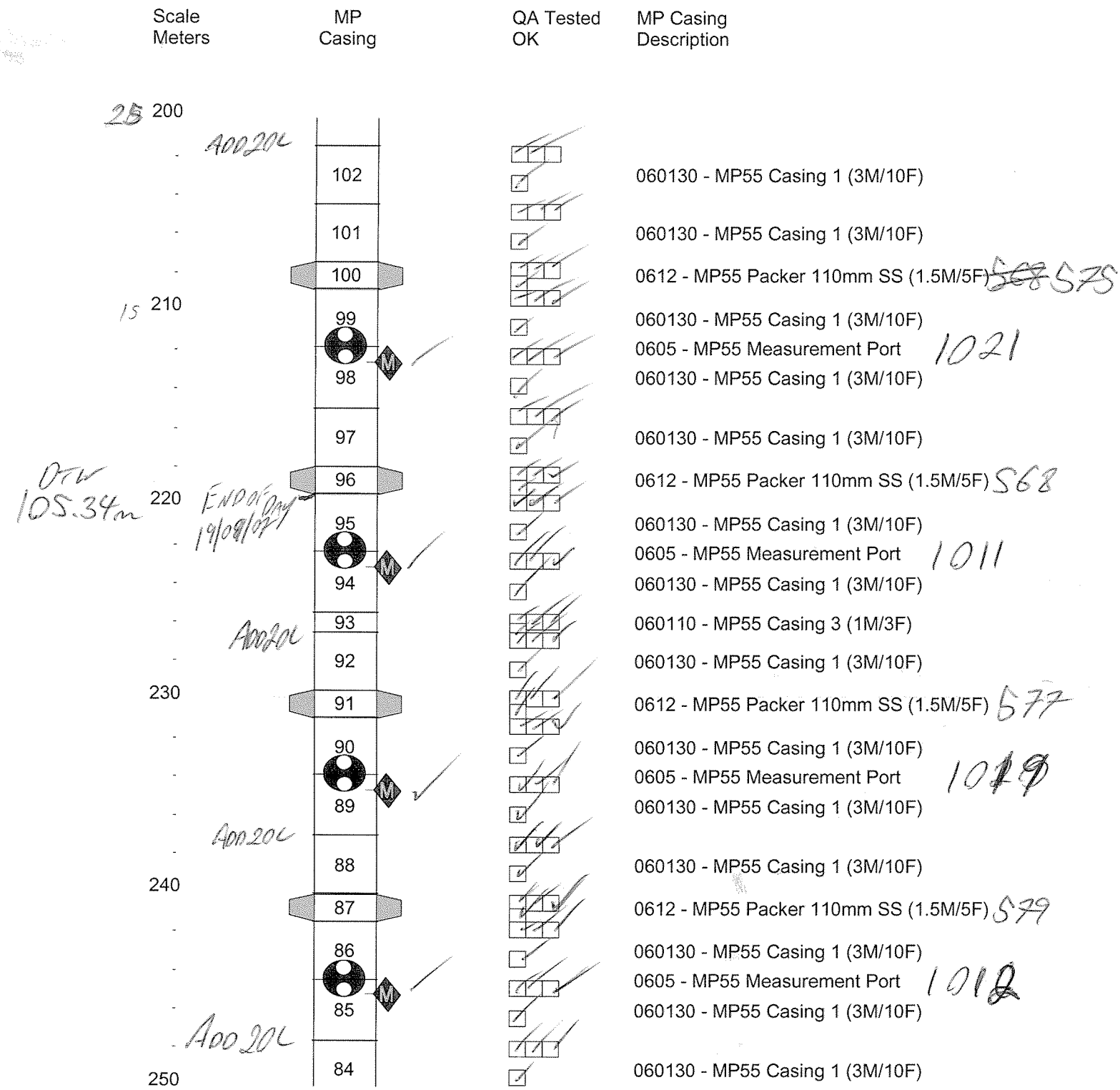
Job No: WB860
Well: DGR-1



 Sep 11 11:44:26 2007

Casing Installation Log
Intera - OPG

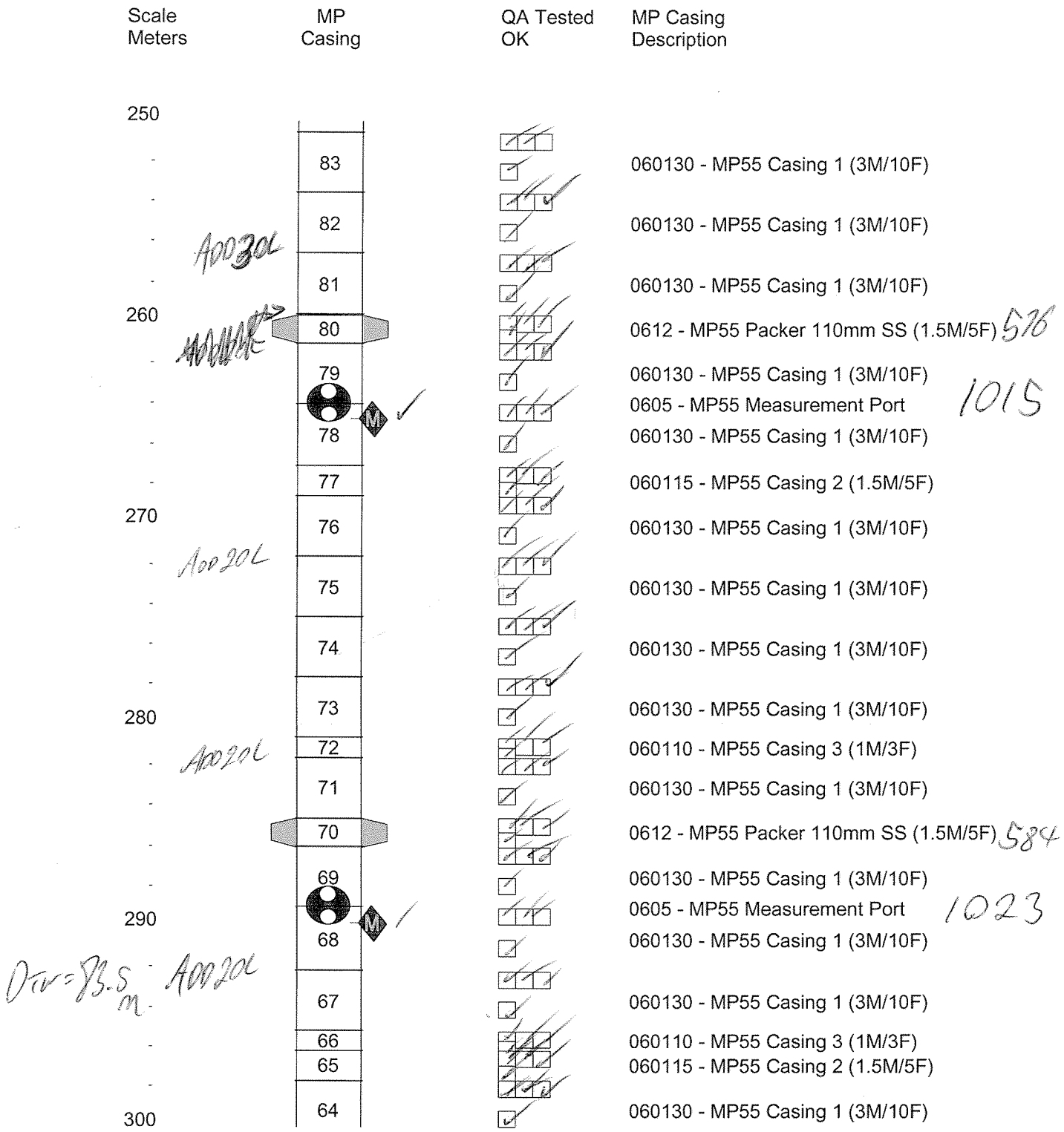
Job No: WB860
Well: DGR-1



e Sep 11 11:44:26 2007

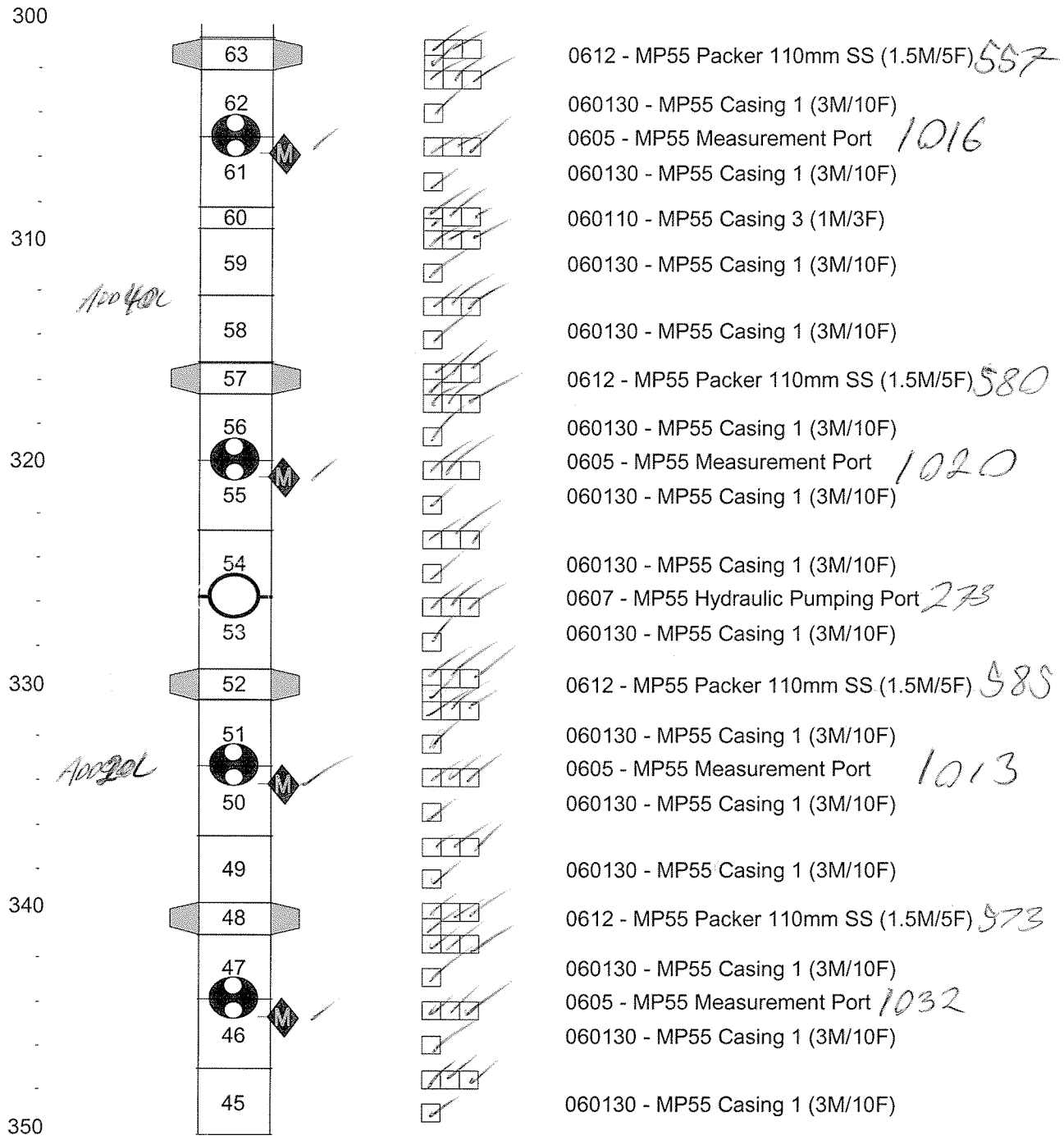
Casing Installation Log
Intera - OPG

Job No: WB860
Well: DGR-1



Casing Installation Log
Intera - OPG

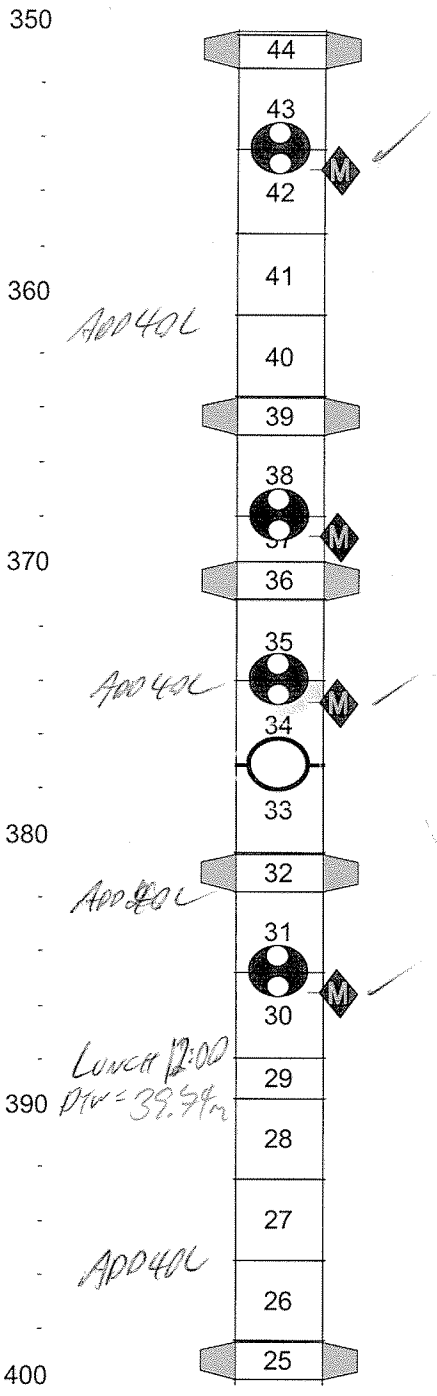
Job No: WB860
Well: DGR-1



 e Sep 11 11:44:35 2007

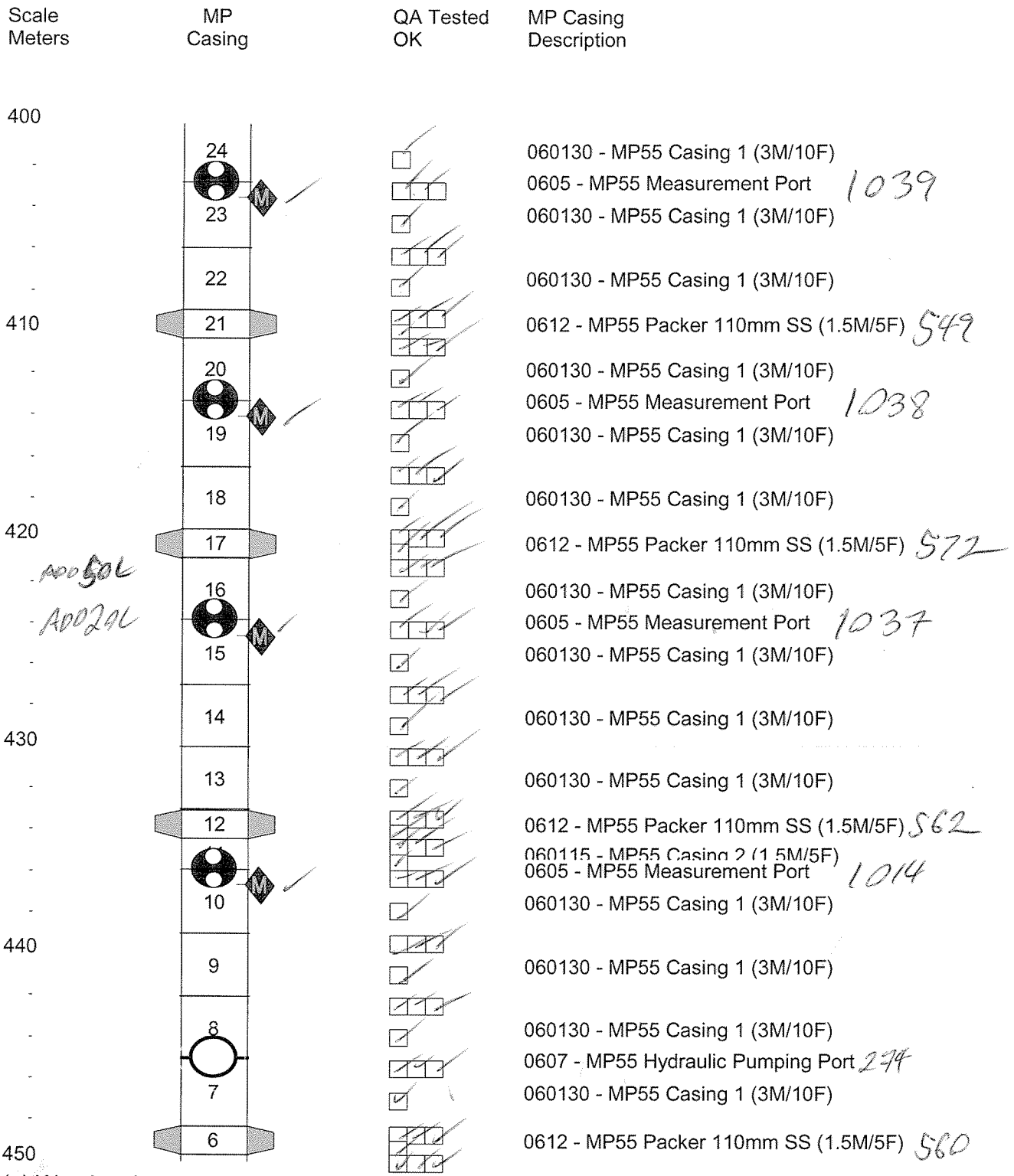
Casing Installation Log
Intera - OPG

Job No: WB860
Well: DGR-1



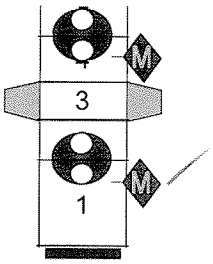
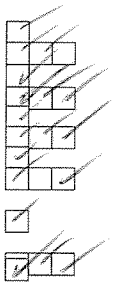
Casing Installation Log
Intera - OPG

Job No: WB860
Well: DGR-1



Casing Installation Log
Intera - OPG

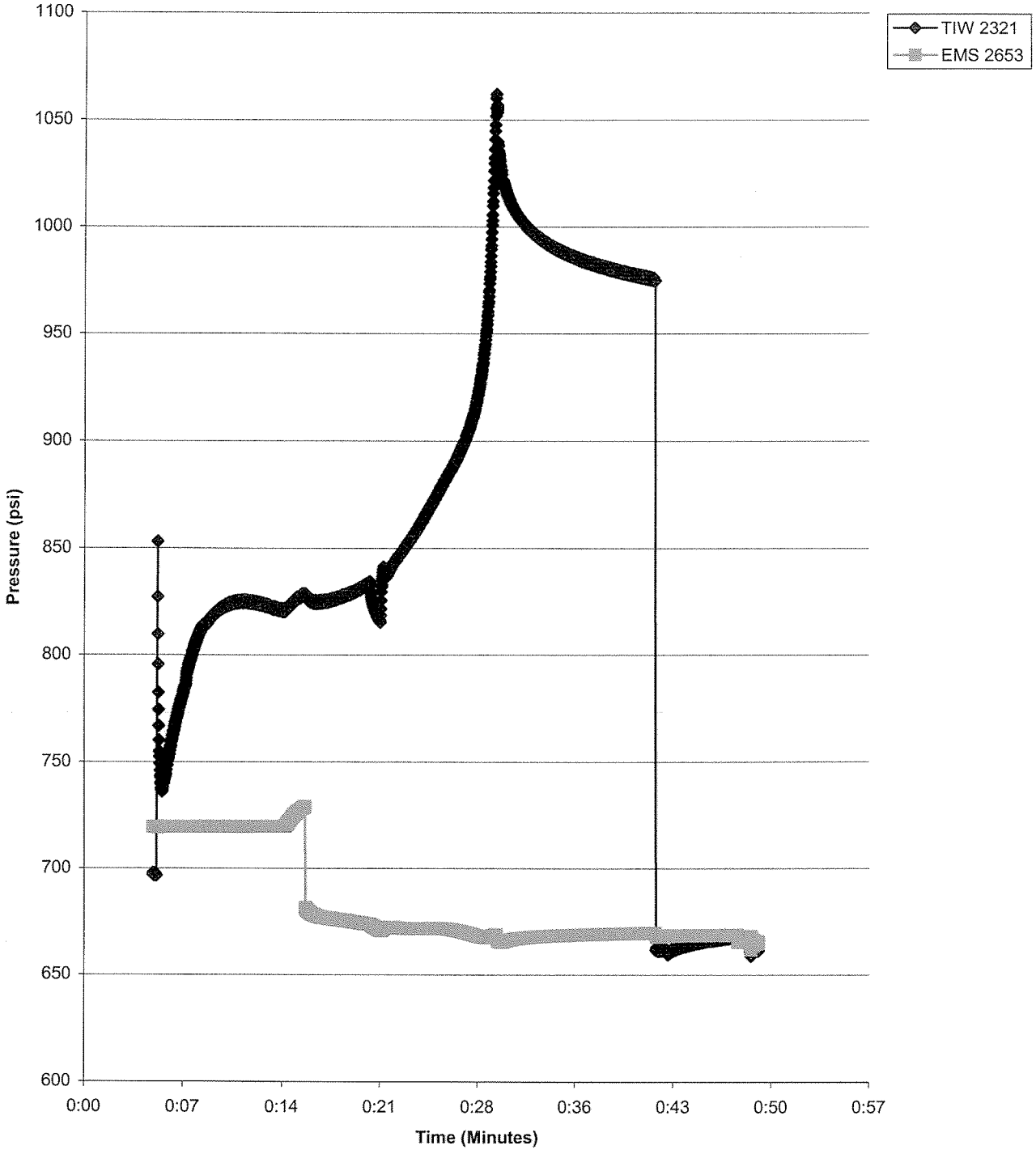
Job No: WB860
Well: DGR-1

Scale Meters	MP Casing	QA Tested OK	MP Casing Description
450			060115 - MP55 Casing 2 (1.5M/5F) 0605 - MP55 Measurement Port 060115 - MP55 Casing 2 (1.5M/5F) 1022 0612 - MP55 Packer 110mm SS (1.5M/5F) 558 060115 - MP55 Casing 2 (1.5M/5F) 0605 - MP55 Measurement Port 1018 060130 - MP55 Casing 1 (3M/10F) 0603 - MP55 End Plug
460			
470			
480			
490			
500			

MP 55 Packer Inflation Record

Company: Westbay Instruments Inc.
Site: Bruce Power
Description: Packer 1
Well:DGR-01
WB: 860
Comment:

Packer: 0612-558
Packer Depth:454.2 m



Plot By:_____

WB860 Packer 1 0612-558.xls

10/17/2007

Westbay Instruments Inc.

MP55 Packer Inflation Field Record

1/2

Project: _____ Client: _____	By: _____ Date: Sept 21/07
Location: _____ Well No. _____	Borehole Diameter: _____
Packer No. 1 Depth: _____	Computer Data File: _____.WDF
Inf-Tool No. _____ Vent Tool No. _____	Volume Pumped: _____ Vol Returned _____
H-B Valve: (P_H) _____ Offset (P_V). _____	Confirm Venting (Vent Tool Data) (Y/N) _____
Vent Tool Pressure (Shoe Out, P_O) _____	Final Inf'n Vol: _____ Final Press: _____ (P_F)
Comments: 719 + 250 = 970	Calc'd Element Pressure ($P_F + P_V - P_O$) _____
	Confirm Pkr Valve Closed (Yes/No): _____

Software Reminder

Pumping Information

I = Inflate, O = Off, C = Close

Target 1070

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
0	0	662	665	10:10		LAUNCH
		667	719.5	10:19		SHOE OUT EML
		850	850	10:21		SHOE OUT TIE 16
.6	300					PUMP TO 300
						TIE TO INF Port 1 open
		764	719.5	10:24		START PUMP
1	200	772	719.5	10:24		
2	200	813	719.5	10:26		
3	200	825	11	10:29		
4	200	827	11	10:31		
5	200	827	719	10:33		SQUIRREL VENT OPEN
			681.6			
6	200	826	675.9	10:36		
7	200	833	673	10:38		STOP PUMP
		818	670	10:39		FIX CONNECTION
						START PUMP
8	300	850	671	10:41		
9	300	870	671	10:43		
10	300	895	670	10:45		
11	330	954	667	10:47		
		1060				TIE OFF
11.25		1041	666			PUMP OFF
		1013		10:48		VENT CLOSED

Westbay Instruments Inc.

MP55 Packer Inflation Field Record

2/2

Project:_____ Client: _____	By:_____ Date:_____
Location:_____ Well No._____	Borehole Diameter:_____
Packer No. 1 Depth:_____	Computer Data File:_____.WDF
Inf-Tool No._____ Vent Tool No._____	Volume Pumped:_____ Vol Returned_____
H-B Valve: (P_H) _____ Offset (P_V). _____	Confirm Venting (Vent Tool Data) (Y/N) _____
Vent Tool Pressure (Shoe Out, P_O) _____	Final Inf'n Vol:_____ Final Press:_____ (P_F)
Comments:_____	Calc'd Element Pressure ($P_F + P_V - P_O$)_____
_____	Confirm Pkr Valve Closed (Yes/No): _____

Software Reminder

I = Inflate, O = Off, C = Close

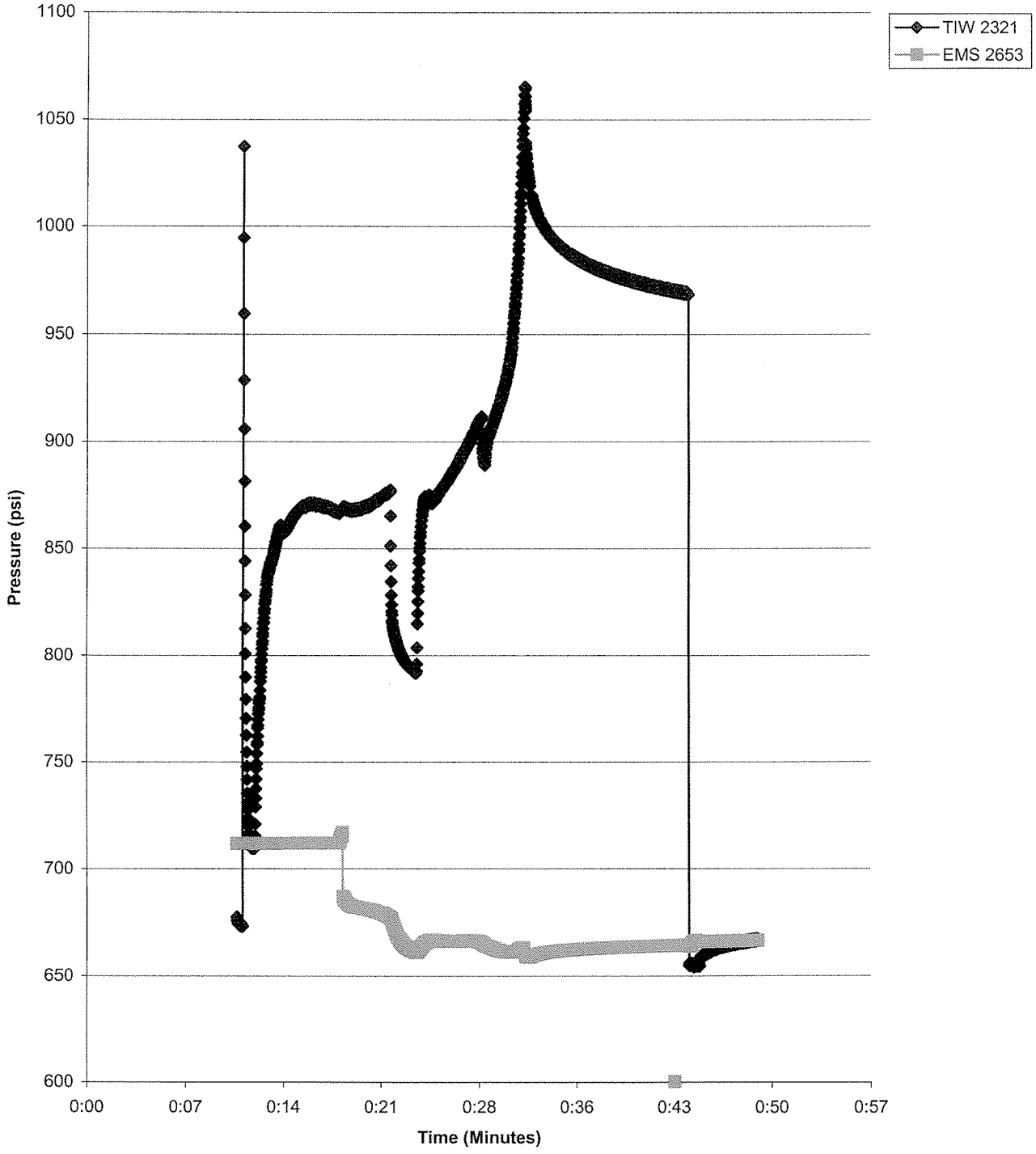
Pumping Information

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
				10:48		10min QA
11.25	430	994	667.9	10:50		
	430	983	668.9	10:55		
	430	978	669.4	10:58		
11.5	780	976	669.6	10:59		Pump 700 psig
	740	661	668.1	11:05		TIE close
						Vent Line
11.0	140	661.8	668.2	11:00		TIE OFF
	140	664.	668.9	11:02		QA
	140	667	668.7	11:05		5 min QA
	140	668	665.2	11:05		EMS shoe in
	140	311	665.1	11:06		TIE shoe in
	140	661	666.2	11:06		Pull tool up/down
				11:07		stop recording

MP 55 Packer Inflation Record

Company: Westbay Instruments Inc.
Site: Bruce Power
Description: Packer 2
Well:DGR-01
WB: 860
Comment:

Packer: 0612-560
Packer Depth:449.7 m



Plot By:_____

WB860 Packer 2 0612-560.xls

10/18/2007

Westbay Instruments Inc.

MP55 Packer Inflation Field Record

Project:	Client:	By:	Date:
Location:	Well No. OF R-1	Borehole Diameter:	
Packer No. 2	Depth:	Computer Data File:	.WDF
Inf-Tool No.	Vent Tool No.	Volume Pumped:	Vol Returned
H-B Valve: (P_H)	Offset (P_V).	Confirm Venting (Vent Tool Data) (Y/N)	
Vent Tool Pressure (Shoe Out, P_O)		Final Inf'n Vol:	Final Press: (P_F)
Comments: Pump to 1060 psi		Calc'd Element Pressure ($P_F + P_V - P_O$)	
		Confirm Pkr Valve Closed (Yes/No):	

711+250 = 960

Pumping Information

Software Reminder
I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
0	0	655	658.3	11:15		Landed
		654	711	11:15		EMS shoe out
		1448	712	11:17		TIE shoe out
0.5	800	1266	712	11:18		Pump to 800 psi
	740	1350	711.8	11:19		TIE -I
0.55	820	1432	711.8	11:21		Pump to 820
						TIE not landed properly
	800	1397	711.8			TIE off
	800	655	711.8	11:22		TIE shoe in
		656	711.9	11:25		Reland TIE
~~780~~	780	908	711.8	11:25		TIE shoe out
	140	762	711.8	11:26		TIE Inflate
			711.8	11:27		start pumping
1L	300	817	711.8	11:28		pumping @ 700 psi
2	300	858	711.8	11:29		
3	300	870	711.9	11:31		
4	300	869	711.9	11:32	715 ps	Squeeze
4.75	300	869	685.6	11:33		Valve open
5	300	867	682.6	11:34		
6	300	870	680.9	11:35		
7	200	777	676	11:37		stop pump · fill reservoir
8	200	792	661	11:39		start pump
8	300	876	666.4	11:41		
9	300	893	666.4	11:42		

Westbay Instruments Inc.

MP55 Packer Inflation Field Record

Project:_____ Client:_____	By:_____ Date:_____
Location:_____ Well No. DGR-1	Borehole Diameter:_____
Packer No. 2 Depth:_____	Computer Data File:_____.WDF
Inf-Tool No._____ Vent Tool No._____	Volume Pumped:_____ Vol Returned_____
H-B Valve: (P_H) _____ Offset (P_V). _____	Confirm Venting (Vent Tool Data) (Y/N) _____
Vent Tool Pressure (Shoe Out, P_O) _____	Final Inf'n Vol:_____ Final Press:_____ (P_F)
Comments:_____ Pump to 1060 psi.	Calc'd Element Pressure ($P_F + P_V - P_O$)_____ Confirm Pkr Valve Closed (Yes/No): _____

711+250 = 960 psi

Pumping Information

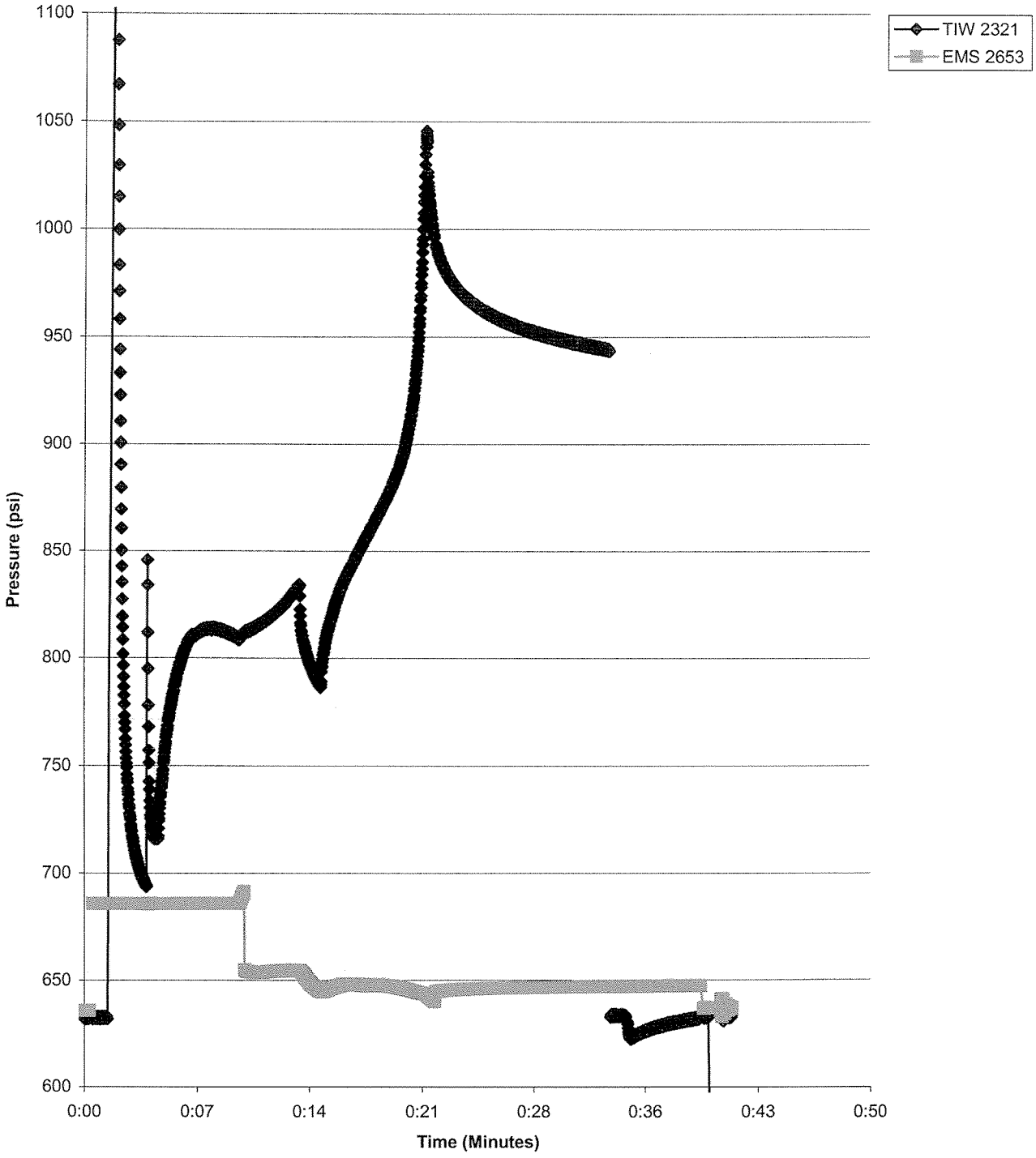
Software Reminder
I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
10	300	901	663.7	11:44		Pump slowed down back to 700 psi
11	700	948	661.1	11:46		
	990	1060	662.1	11:47		TIE -O
11.45	940	1006	660.1	11:48		EMS valve closed
	440	989	661.9	11:50		10 min QA
	430	976	663.3	11:54		
	430	970	664.1	11:58		
11.7	800	970	664.2	11:58		Pump to 800 psi
	740	654	664.7	11:59		TIE -C
0	0	655	666.1	12:00		Vent line
11.2	0	659	666.0	12:00		TIE -OFF
	0	665	666.3	12:02		5 min R-A
	0	668	666.6	12:05		
	0	668	658.7	12:05		EMS Shoe in
	0	324	658.7	12:07		TIE Shoe in
				12:08		Stop recording
	0	656	658.9	12:08		release suction

MP 55 Packer Inflation Record

Company: Westbay Instruments Inc.
Site: Bruce Power
Description: Packer 3
Well:DGR-01
WB: 860
Comment:

Packer: 0612-562
Packer Depth:434.4 m



Plot By:_____

WB860 Packer 3 0612-562.xls

10/18/2007

Westbay Instruments Inc.

MP55 Packer Inflation Field Record

1/2

Project: _____ Client: _____	By: _____ Date: Sept 21/07
Location: _____ Well No. _____	Borehole Diameter: _____
Packer No. 3 Depth: _____	Computer Data File: _____.WDF
Inf-Tool No. _____ Vent Tool No. _____	Volume Pumped: _____ Vol Returned _____
H-B Valve: (P_H) _____ Offset (P_V). _____	Confirm Venting (Vent Tool Data) (Y/N) _____
Vent Tool Pressure (Shoe Out, P_O) _____	Final Inf'n Vol: _____ Final Press: _____ (P_F)
Comments: Pump to 1035	Calc'd Element Pressure ($P_F + P_V - P_O$) _____
	Confirm Pkr Valve Closed (Yes/No): _____

685+250 = 935

Pumping Information

Software Reminder
I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
0	0	633	636.0	12:17		Landed
		637	685.7	12:18		EMS shoe out
		1320	685.7	12:19		TIE shoe out
0.5	800	700	685.7	12:21		Pump to 800
0.5	200	740	685.7	12:21		TIE -I
	300	773	685.7	12:22		start Pumping
1.25	300	786	685.7	12:23		
2	300	807	685.8	12:24		
3	330	814	685.8	12:25		
4	330	811	685.8	12:27		
4.35	330	812	690	12:28		squeeze valve open
5	330	813	653.5	12:28		
6	330	820	654.1	12:29		
7	360	820	654.1	12:31		stop pump - ref:11
	200	790	645.5	12:32		start pump
8	300	837	648.0	12:34		
9	340	860	647.8	12:36		
10	370	883	646.8	12:37		
11	420	944	644.2	12:38		
11.25	440	1038	642.6	12:39		Pump off / TIE off
	440	987	645.1	12:40		EMS valve close
11.25	430	968	645.8	12:42		10 min Q/A
	430	953	646.5	12:46		
	430	946	646.9	12:50		

Westbay Instruments Inc.

MP55 Packer Inflation Field Record

2/2

Project: _____ Client: _____	By: _____ Date: Sept 21/07
Location: _____ Well No. DGR-1	Borehole Diameter: _____
Packer No. 3 Depth: _____	Computer Data File: _____.WDF
Inf-Tool No. _____ Vent Tool No. _____	Volume Pumped: _____ Vol Returned _____
H-B Valve: (P_H) _____ Offset (P_V). _____	Confirm Venting (Vent Tool Data) (Y/N) _____
Vent Tool Pressure (Shoe Out, P_O) _____	Final Inf'n Vol: _____ Final Press: _____ (P_F)
Comments: _____	Calc'd Element Pressure ($P_F + P_V - P_O$) _____
_____	Confirm Pkr Valve Closed (Yes/No): _____

Software Reminder

I = Inflate, O = Off, C = Close

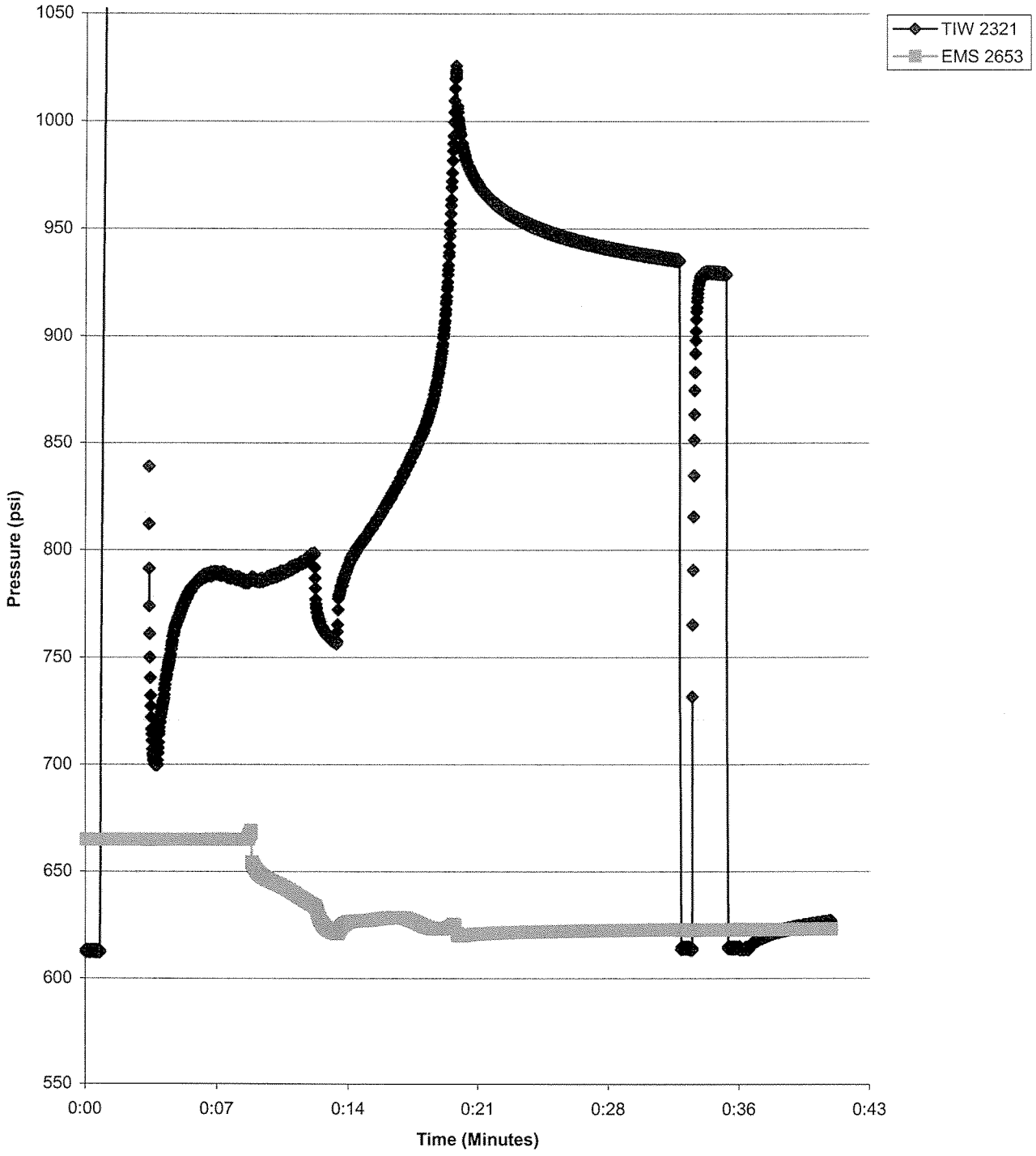
Pumping Information

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
19.45	800	944	647.0	12:51		Pump to 800 psi
	750	634	647.0	12:51		TIE-C
11.0	0	633	647.0	12:52		Vent line
11.0	0	624	647.1	12:52		TIE-O
11.0	0	629	647.2	12:55		5-min O/A
		632	647.3	12:57		
		632	637.1	12:57		EMS-shoe in
		417.7	637.1	12:58		TIE-shoe in
		632	638	12:59		move tool-break suction
		633	637.0	12:59		stop recording/save

MP 55 Packer Inflation Record

Company: Westbay Instruments Inc.
Site: Bruce Power
Description: Packer 4
Well:DGR-01
WB: 860
Comment:

Packer: 0612-572
Packer Depth:420.9 m



Plot By:_____

WB860 Packer 4 0612-572.xls

10/18/2007

Westbay Instruments Inc.

MP55 Packer Inflation Field Record

Project:_____ Client: _____	By:_____ Date: Sept 21/07
Location:_____ Well No._____	Borehole Diameter:_____
Packer No. 4 Depth:_____	Computer Data File:_____.WDF
Inf-Tool No._____ Vent Tool No._____	Volume Pumped:_____ Vol Returned_____
H-B Valve: (P_H) _____ Offset (P_V). _____	Confirm Venting (Vent Tool Data) (Y/N) _____
Vent Tool Pressure (Shoe Out, P_O) _____	Final Inf'n Vol:_____ Final Press:_____ (P_F)
Comments:_____ pump to 1015	Calc'd Element Pressure ($P_F + P_V - P_O$)_____ Confirm Pkr Valve Closed (Yes/No): _____

665+250 = 915

Pumping Information

Software Reminder
I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
0	0	613	664.8 P2	2:18		Landed - Record
0	0	1394	664.9	2:19		EMS TIE - Shoe out
0.6	800	1370	664.9	2:21		Pump to 800 psi
0.6	200	901	664.8	2:21		TIE - I
1	260	739	664.8	2:22		start pumping
2	330	783	664.9	2:24		
3	340	789	664.9	2:25		
4	350	786	664.9	2:26		
4.45	350	786	667.9	2:27		Squeeze vent open
5	350	786	646.2	2:28		
6	350	790	640.9	2:29		
7	360	798	633.1	2:31		stop pump/refill reservoir
7	200	757	621.1	2:32		start pump
8	300	807	627.2	2:34		
9	320	825	628.4	2:35		
10	360	851	625.3	2:36		
11	400	910	623.3	2:38		
11.35	460	1015	624.1	2:39		pump off / TIE - off
11.35	460	970	620.8	2:40		10 min Q/A
11.35	460	956	621.5	2:42		
11.35	460	942	622.3	2:46		
11.35	460	936	622.7	2:50		
11.5	800	935	622.7	2:50		Pump to 800 psi
11.5	740	614	622.5	2:51		TIE - C No close

Westbay Instruments Inc.

MP55 Packer Inflation Field Record

Project:_____ Client: _____	By:_____ Date:_____
Location:_____ Well No._____	Borehole Diameter:_____
Packer No. 4 Depth:_____	Computer Data File:_____.WDF
Inf-Tool No._____ Vent Tool No._____	Volume Pumped:_____ Vol Returned_____
H-B Valve: (P_H) _____ Offset (P_V). _____	Confirm Venting (Vent Tool Data) (Y/N) _____
Vent Tool Pressure (Shoe Out, P_O) _____	Final Inf'n Vol:_____ Final Press:_____ (P_F)
Comments:_____	Calc'd Element Pressure ($P_F + P_V - P_O$)_____
_____	Confirm Pkr Valve Closed (Yes/No): _____

Software Reminder

Pumping Information

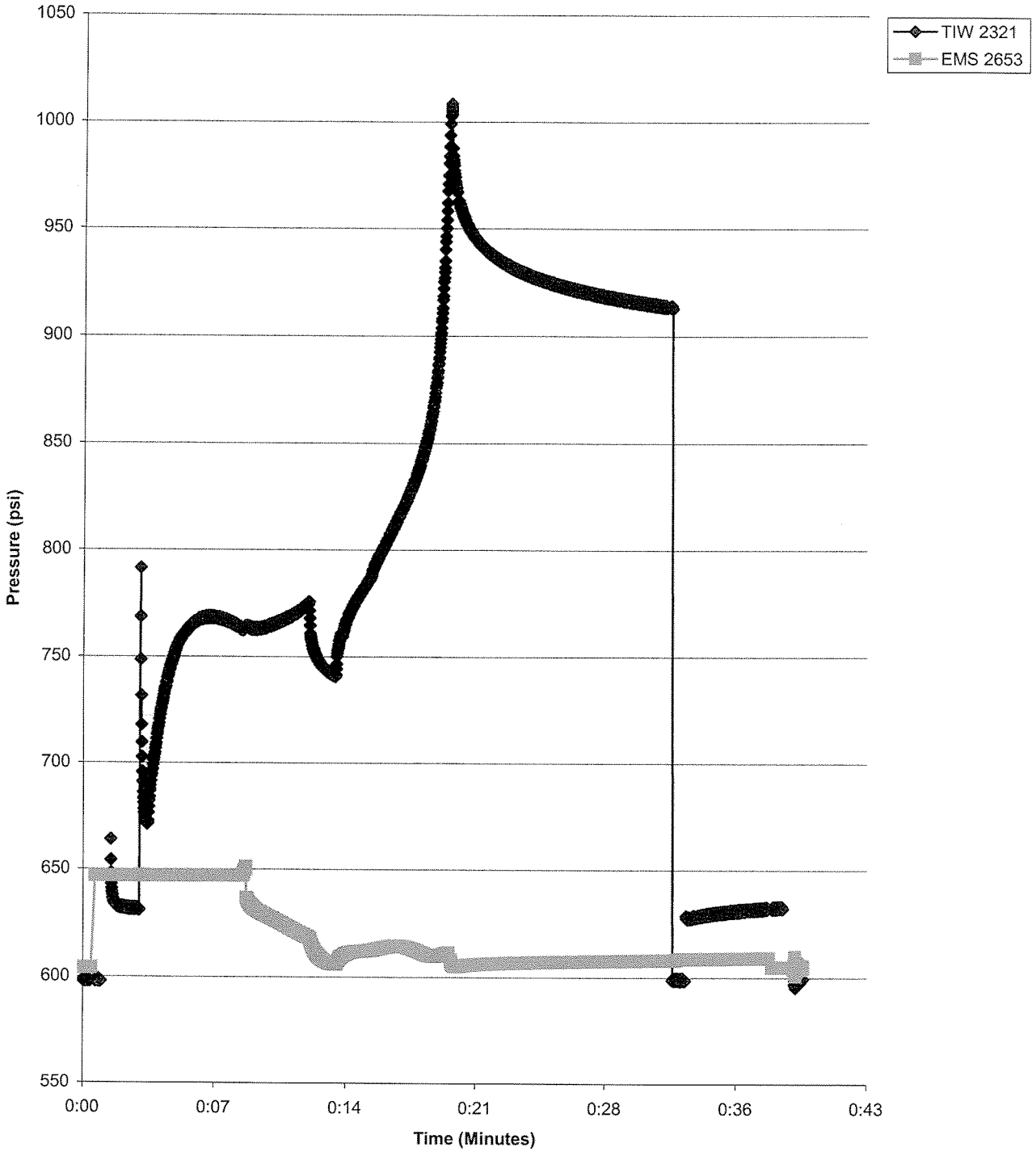
I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
	*	929	622.6	2:52		Vent line - TIE off did not close
11.6	880	929	622.7	2:53		Pump to 900
11.15	0	613	622.6	2:53		TIE close - pump to 1000 psi
11.15	0	617	622.7	2:55		vent - TIE off
11.1	0	621	622.8	2:56		5 min Q/A
11.1	0	623	622.9	2:57		
		627	623.0	3:00		
		628	623.0	3:01		EMS shoe in
		614	623.5	3:02		TIE shoe in → shoe not in / Rat
		614	620.1	3:05		EMS home
		614	620.4	3:06		EMS Arm o/t
						stop recording / save

MP 55 Packer Inflation Record

Company: Westbay Instruments Inc.
Site: Bruce Power
Description: Packer 5
Well:DGR-01
WB: 860
Comment:

Packer: 0612-549
Packer Depth:410.4 m



WB860 Packer 5 0612-549.xls

Plot By:_____
10/18/2007

Westbay Instruments Inc.

MP55 Packer Inflation Field Record

Project:_____ Client:_____	By:_____ Date:_____
Location:_____ Well No._____	Borehole Diameter:_____
Packer No. 5 Depth:_____	Computer Data File:_____.WDF
Inf-Tool No._____ Vent Tool No._____	Volume Pumped:_____ Vol Returned_____
H-B Valve: (P_H) _____ Offset (P_V). _____	Confirm Venting (Vent Tool Data) (Y/N) _____
Vent Tool Pressure (Shoe Out, P_O) _____	Final Inf'n Vol:_____ Final Press:_____ (P_F)
Comments:_____ Pump to 1000 psi.	Calc'd Element Pressure ($P_F + P_V - P_O$)_____ Confirm Pkr Valve Closed (Yes/No): _____

647+250 : 900

Pumping Information

Software Reminder
I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
0	0	598	604.1	3:17		Landed - start recorder
0	0	598	646.9	3:17		EMS - shoe out
0	0	1070	646.9	3:17		TIE - shoe out
0.5	300	632	646.9	3:19		Pump to 300 psi
0.5	200	676	646.9	3:19		TIE - I
1	300	723	646.9	3:20		start pumping
2	300	761	647.0	3:22		
3	320	768	647.0	3:23		
4	330	766	647.0	3:24		
4.7	330	764	651.0	3:25		Squeeze vent open
5	330	763	630.2	3:26		
6	340	766	624.1	3:27		
7	340	774	618.2	3:28		pump off/refill reservoir
7	200	743	606.7	3:30		start pump
8	300	783	612.1	3:32		
9	360	808	614.2	3:33		
10	380	834	612.2	3:34		
11	440	901	610.2	3:36		
11.25	440	999	606.7	3:36		Pump off / TIE - off
11.25	440	958	605.4	3:37	Q/A start	Vent / EMS valve closed
11.25	440	932	606.7	3:40		10 min Q/A
11.25	440	923	607.3	3:43		
11.25	440	916	607.8	3:47		
11.5	800	913	607.9	3:48		Pump to 800 psi.

Westbay Instruments Inc.

MP55 Packer Inflation Field Record

Project:_____ Client: _____	By:_____ Date:_____
Location:_____ Well No._____	Borehole Diameter:_____
Packer No. 5 Depth:_____	Computer Data File:_____.WDF
Inf-Tool No._____ Vent Tool No._____	Volume Pumped:_____ Vol Returned_____
H-B Valve: (P_H) _____ Offset (P_V). _____	Confirm Venting (Vent Tool Data) (Y/N) _____
Vent Tool Pressure (Shoe Out, P_O) _____	Final Inf'n Vol:_____ Final Press:_____ (P_F)
Comments:_____	Calc'd Element Pressure ($P_F + P_V - P_O$)_____
_____	Confirm Pkr Valve Closed (Yes/No): _____

Software Reminder

I = Inflate, O = Off, C = Close

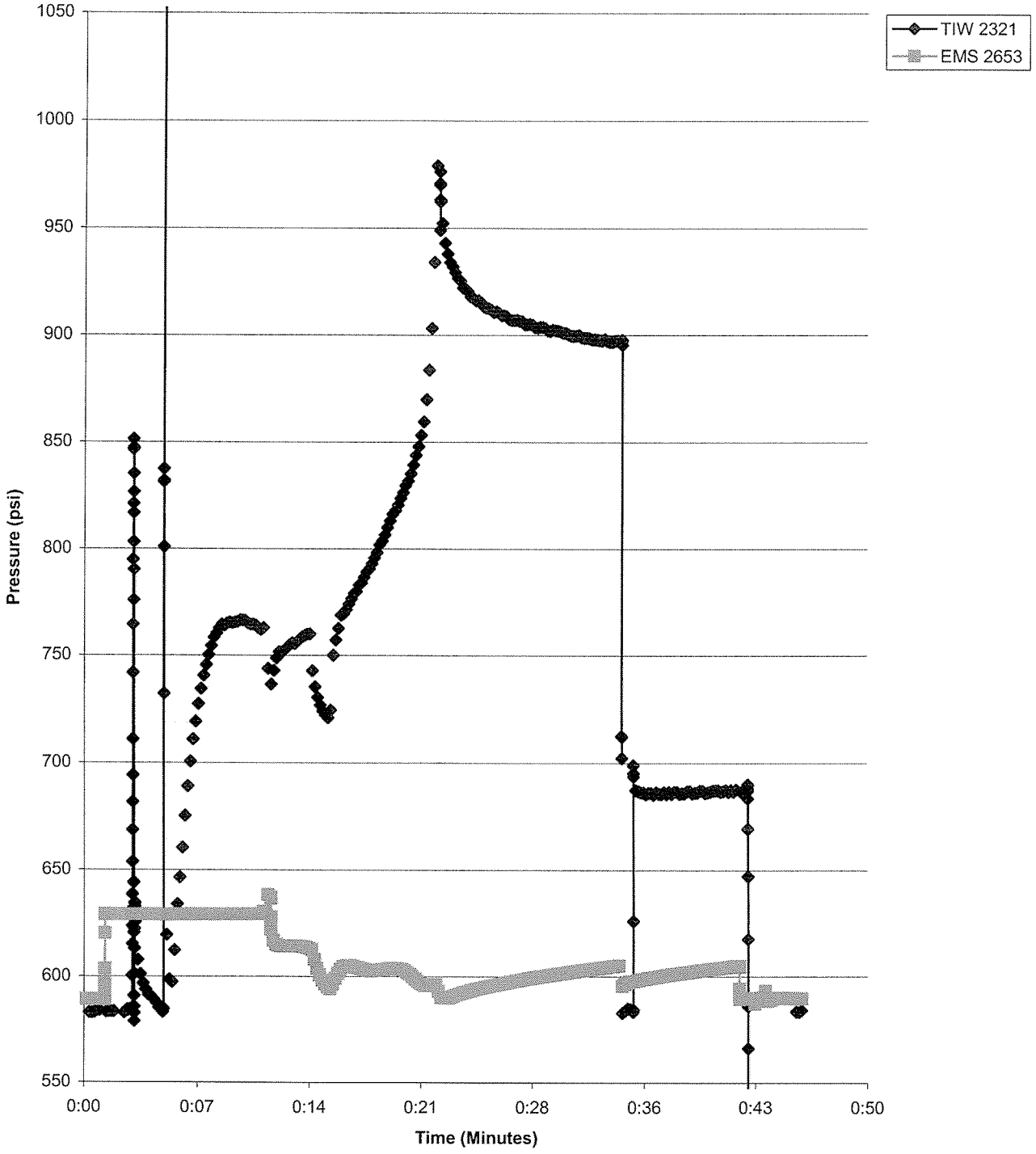
Pumping Information

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
11.5						
~~11.5~~	760	599.1	608.4	3:48		TIE - close
11.0	0					vent line
11.0	0	628	608.7	3:49		TIE off
11.0	0	630	608.7	3:51		5 mm Q/A
11.0	0	632	609.0	3:54		
		633	604.8	3:54		EMS shoe in
		597	603.4	3:55		TIE - shoe in
						stop logging

MP 55 Packer Inflation Record

Company: Westbay Instruments Inc.
Site: Bruce Power
Description: Packer 6
Well:DGR-01
WB: 860
Comment:

Packer: 0612-586
Packer Depth:399.8 m



Plot By:_____

WB860 Packer 6 0612-586.xls

10/18/2007

Westbay Instruments Inc.

MP55 Packer Inflation Field Record

Project:	Client:	By:	Date:
Location:	Well No.	Borehole Diameter:	
Packer No. 6	Depth:	Computer Data File:	.WDF
Inf-Tool No.	Vent Tool No.	Volume Pumped:	Vol Returned
H-B Valve: (P_H)	Offset (P_V).	Confirm Venting (Vent Tool Data) (Y/N)	
Vent Tool Pressure (Shoe Out, P_O)		Final Inf'n Vol:	Final Press: (P_F)
Comments: Pump to 980		Calc'd Element Pressure ($P_F + P_V - P_O$)	
		Confirm Pkr Valve Closed (Yes/No):	

630+250 = 880

Pumping Information

Software Reminder
I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
0	0	584	589	4:11		Landed
		584	629.1	4:11		EMS - shoe out Rot 16
		603.6	629.0	4:13		TIE shoe out
0.5	800	597.4	629.0	4:14		Pump to 800 psi
0.5	150	644	629.1	4:14		TIE - I
1	280	670	629.1	4:16		start pumping
2	360	736	629.1	4:17		
3	400	763	629.2	4:18		
4	460	766	629.2	4:19		
5	400	762	629.2	4:20		
5.5	280	727	637	4:21		Valve open - motor fail - turn pump off
			614.1	4:21		Squeeze vent open - pump on
6	300	754	614.1	4:22		
7	300	760	612.8	4:24		pump off / refil reservoir
7.5	300	761	601.8	4:25		pump on
8	360	774	604.9	4:26		
9	380	790	602.9	4:27		
10	400	812	603.6	4:29		
11	420	833	600.7	4:30		
12	—	888	6595	4:32	S	pump off / TIE - off
12.25	440	980	593.0	4:32		
12	0	933	590.4	4:33		Vent / close EMS valve
12	0	908	597.5	4:37		10 mm O/A
12	0	902	501.0	4:40		

Westbay Instruments Inc.

MP55 Packer Inflation Field Record

Project:_____ Client:_____	By:_____ Date:_____
Location:_____ Well No._____	Borehole Diameter:_____
Packer No. 6 Depth:_____	Computer Data File:_____.WDF
Inf-Tool No._____ Vent Tool No._____	Volume Pumped:_____ Vol Returned_____
H-B Valve: (P_H) _____ Offset (P_V). _____	Confirm Venting (Vent Tool Data) (Y/N) _____
Vent Tool Pressure (Shoe Out, P_O) _____	Final Inf'n Vol:_____ Final Press:_____ (P_F)
Comments:_____	Calc'd Element Pressure ($P_F + P_V - P_O$)_____
_____	Confirm Pkr Valve Closed (Yes/No): _____

Software Reminder

Pumping Information

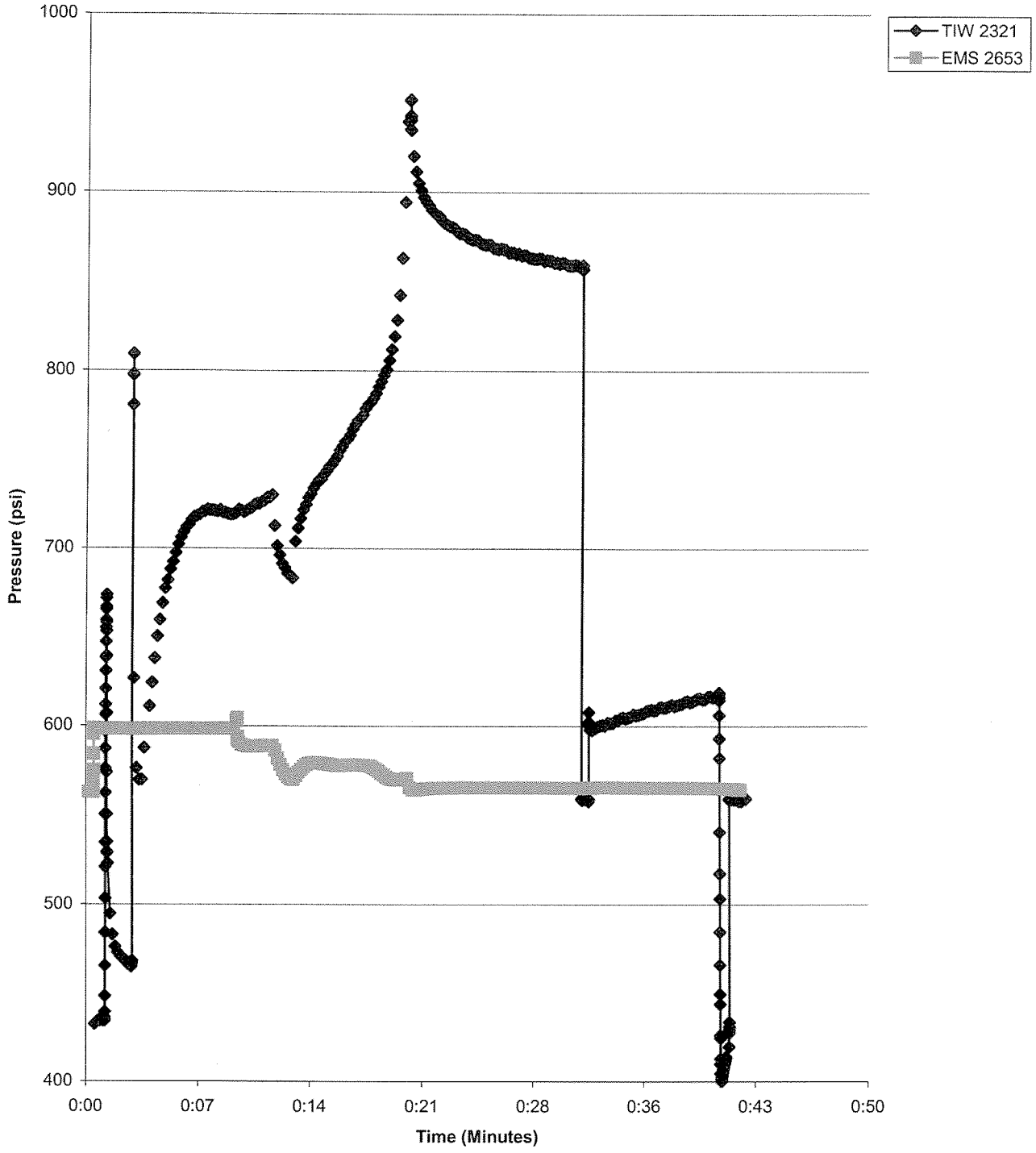
I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
12	0	897	604.0	4:43		O/A
12.5	800	897	604.8	4:44		Pump to 800 psi
12.5	760	584	597.2	4:44		TIE - close
12.2	0	687	598.2	4:45		Vent / TIE - OFF
12.0	0	687	602.5	4:49		5 min O/A
		687	604.3	4:51		
		687	589.8	4:52		EMS shoe in
		584	589.8	4:55		TIE shoe in
						stop logging / Sail

MP 55 Packer Inflation Record

Company: Westbay Instruments Inc.
Site: Bruce Power
Description: Packer 7
Well:DGR-01
WB: 860
Comment:

Packer: 0612-571
Packer Depth:381.8 m



Plot By:_____

WB860 Packer 7 0612-571.xls

10/18/2007

Westbay Instruments Inc.

MP55 Packer Inflation Field Record

Project:_____ Client:_____	By:_____ Date:_____
Location:_____ Well No._____	Borehole Diameter:_____
Packer No. 7 Depth:_____	Computer Data File:_____.WDF
Inf-Tool No._____ Vent Tool No._____	Volume Pumped:_____ Vol Returned_____
H-B Valve: (P_H) _____ Offset (P_V). _____	Confirm Venting (Vent Tool Data) (Y/N) _____
Vent Tool Pressure (Shoe Out, P_O) _____	Final Inf'n Vol:_____ Final Press:_____ (P_F)
Comments:_____ Pump to 950	Calc'd Element Pressure ($P_F + P_V - P_O$)_____ Confirm Pkr Valve Closed (Yes/No): _____

600+250 = 850

Pumping Information

Software Reminder
I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
0	0	933.4	563.0	5:07		Landed - record on
		433	598.4	5:07		ENS shoe out
		671	598.3	5:08		TIE shoe out
0.5	800	468	598.4	5:09		Pump to 800 psi
0.5	150	572	598.3	5:10		TIE - I
				5:10		start pumping
1	220	631	598.3	5:11		1L
2	300	690	598.4	5:12		2L
3	340	716	598.5	5:13		3L
4	350	722	598.5	5:15		4L
5	360	710	5986	5:16		5L
5.4	360	720	604	5:17		squeeze vent open
6	360	724	588.6	5:17		6L
7	360	730	589.1	5:19		7L / stop pump / set
7	200	684	570.1	5:20		start pump
8	320	735	579.5	5:21		8L
9	340	752	577.8	5:23		9L
10	360	772	578.2	5:24		10L
11	390	793	573.7	5:26		11L
12	460	868	570.3	5:27		12L
12.25	480	961	570.8	5:28		pump off / TIE - off
12.25	460	902	564.7	5:28		ENS - valve off
-	-	-	-	5:28		10 min Q/A
12.25	440	884	565.4	5:30		Q/A

Westbay Instruments Inc.

MP55 Packer Inflation Field Record

Project:_____ Client:_____	By:_____ Date:_____
Location:_____ Well No._____	Borehole Diameter:_____
Packer No. 7 Depth:_____	Computer Data File:_____.WDF
Inf-Tool No._____ Vent Tool No._____	Volume Pumped:_____ Vol Returned_____
H-B Valve: (P_H) _____ Offset (P_V). _____	Confirm Venting (Vent Tool Data) (Y/N) _____
Vent Tool Pressure (Shoe Out, P_O) _____	Final Inf'n Vol:_____ Final Press:_____ (P_F)
Comments:_____	Calc'd Element Pressure ($P_F + P_V - P_O$)_____
_____	Confirm Pkr Valve Closed (Yes/No): _____

Software Reminder

Pumping Information

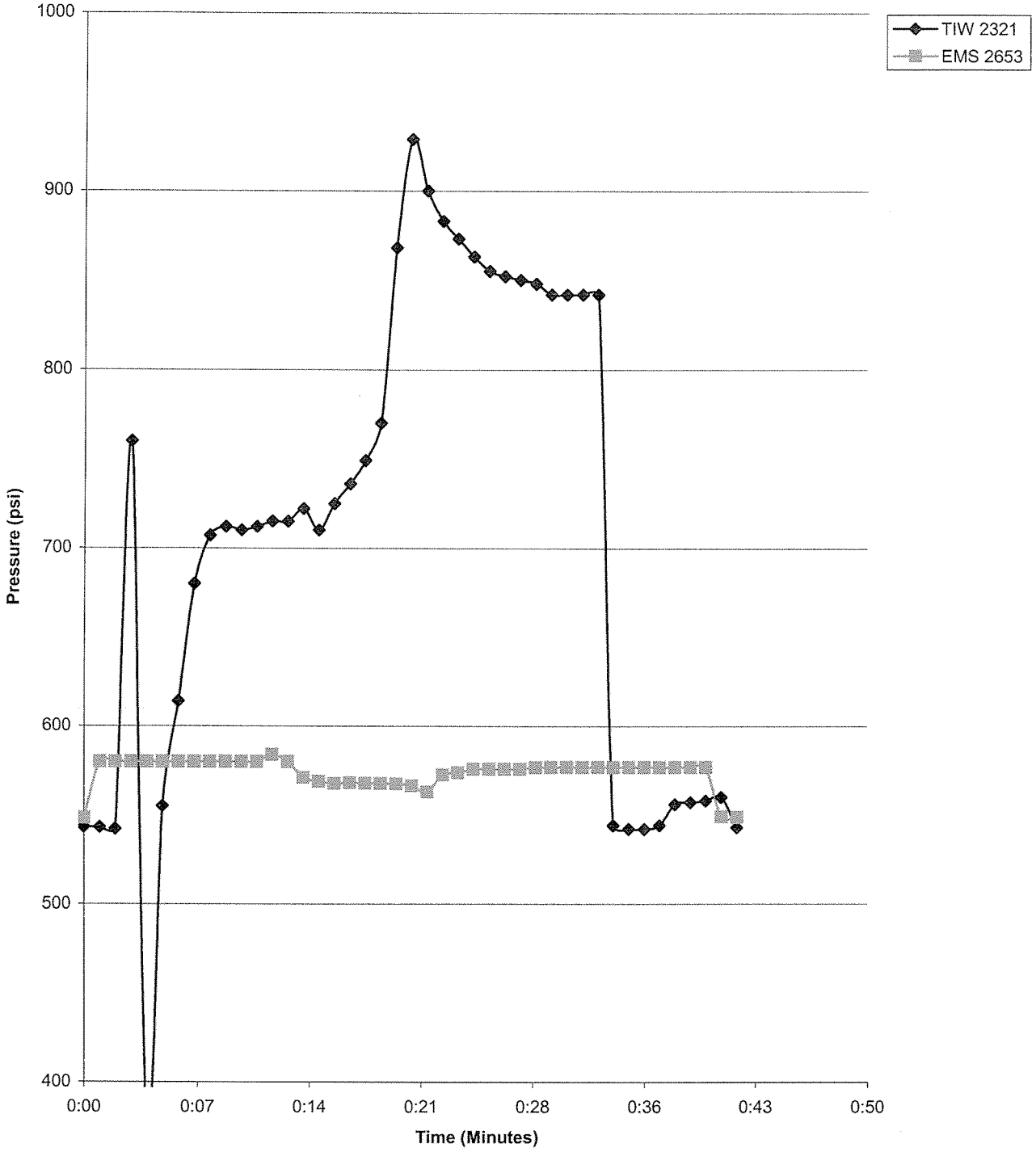
I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
12.25	540	867	565.7	5:34		Q/A
12.25	540	861	565.5	5:38		Q/A
12.5	800	858	565.5	5:38		Pump to 800 psi
12.5	760	559	565.5	5:39		TIE - C
12.0	0	602	565.8	5:40		vent line / TIE - O
-	-	-	-	5:40		5 min Q/A
12.0	0	605	565.6	5:42		Q/A
12.0	0	611	565.4	5:45		Q/A
		614	565.4	5:46		Q/A
		616	565.4	5:47		Q/A
		414	565.2	5:48		TIE shoe in
		559	565.4	5:49		TIE close
		559	564.3	5:50		shoe out - TIE
		568	564.3	5:50		TIE - off
		574	564.2	5:53		Q/A
		576	564.2	5:54		EMS - shoe in
		558	564.2	5:55		TIE - shoe in
				5:59		stop recording / save

MP 55 Packer Inflation Record

Company: Westbay Instruments Inc.
Site: Bruce Power
Description: Packer 8
Well:DGR-01
WB: 860
Comment: Data File Lost due to Computer Failure

Packer: 0612-574
Packer Depth:371.0 m



Plot By:_____

WB860 Packer 8 0612-574.xls

10/18/2007

Westbay Instruments Inc.

MP55 Packer Inflation Field Record

Project:_____ Client: _____	By:_____ Date:_____
Location:_____ Well No._____	Borehole Diameter:_____
Packer No. 8 Depth:_____	Computer Data File:_____.WDF
Inf-Tool No._____ Vent Tool No._____	Volume Pumped:_____ Vol Returned_____
H-B Valve: (P_H) _____ Offset (P_V). _____	Confirm Venting (Vent Tool Data) (Y/N) _____
Vent Tool Pressure (Shoe Out, P_O) _____	Final Inf'n Vol:_____ Final Press:_____ (P_F)
Comments:_____ Pump to 930	Calc'd Element Pressure ($P_F + P_V - P_O$)_____ Confirm Pkr Valve Closed (Yes/No): _____

580+250 = 830

Pumping Information

Software Reminder
I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
0	0	543	548.1	~~6~~:04		Landed / start record
0	0	542	580.0	6:05		EMS shoe out
0	0	760	579.9	6:05		TIE shoe out
0.5	800	374	579.9	6:07		Pump to 800 psi
0.5	150	555	580.0	6:08		TIE-I
X	~~260~~	~~614~~	~~580.0~~	6:08		start pumping
1	260	614	580.0	6:09		1L
2	340	680	580.0	6:10		2L
3	360	707	580.1	6:11		3L
4	360	712	580.1	6:13		4L
5	360	710	580.1	6:14		5L
5.5	360	712	584	6:15		Squeeze vent open
6	360	715	570.8	6:15		6L
7	370	722	571.1	6:17		7L
–	–	–	–	6:17		Stop pump / refill reservoir
–	–	–	–	6:18		restart pump
7.5	340	725	567.8	6:19		7.5L
8	360	736	568.3	6:20		8L
9	380	749	568.0	6:21		9L
10	400	770	567.8	6:22		10L
11	430	794	567.7	6:23		11L
12	508	868	566.5	6:25		12L
12.2	440	929	563	6:25		pump off / TIE-off
12.2	440	883	572.7	6:26		EMS close valve

Westbay Instruments Inc.

MP55 Packer Inflation Field Record

Project:_____ Client: _____	By:_____ Date:_____
Location:_____ Well No._____	Borehole Diameter:_____
Packer No. 8 Depth:_____	Computer Data File:_____.WDF
Inf-Tool No._____ Vent Tool No._____	Volume Pumped:_____ Vol Returned_____
H-B Valve: (P_H) _____ Offset (P_V). _____	Confirm Venting (Vent Tool Data) (Y/N) _____
Vent Tool Pressure (Shoe Out, P_O) _____	Final Inf'n Vol:_____ Final Press:_____ (P_F)
Comments:_____	Calc'd Element Pressure ($P_F + P_V - P_O$)_____
_____	Confirm Pkr Valve Closed (Yes/No): _____

Software Reminder

Pumping Information

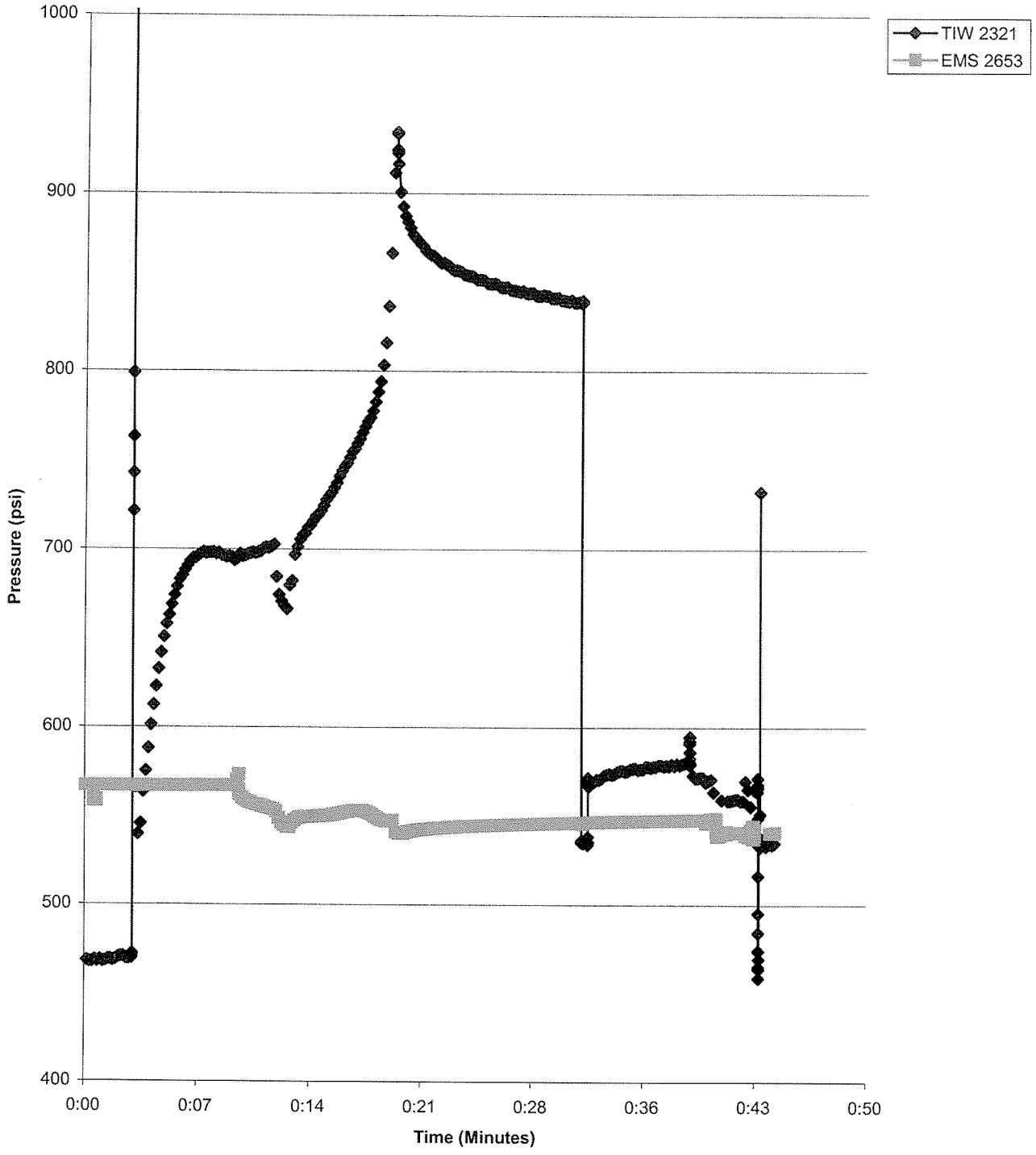
I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
12.2	440	–	–	6:26		10 min Q/A Start
12.2	440	863	576.0	6:28		Q/A
12.2	440	848	576.8	6:32		Q/A
12.2	440	842	577.0	6:36		Q/A
12.4	800	841	577.1	6:36		Pump to 800 psi
12.4	760	544	577.1	6:37		TIE-close
11.9	0	542	577.1	6:37		Vent line / TIE-O
–	–	–	–	6:38		5min Q/A
11.9	0	554	577.1	6:40		
		556	577.2	6:41		
		557	577.2	6:42		
		558	577.2	6:43		
		560	549.1	6:44		EMS shoe in
		593	548.9	6:45		TIE shoe in
						stop logging / save

MP 55 Packer Inflation Record

Company: Westbay Instruments Inc.
Site: Bruce Power
Description: Packer 9
Well:DGR-01
WB: 860
Comment:

Packer: 0612-556
Packer Depth:363.5



WB860 Packer 9 0612-556.xls

Plot By:_____
10/18/2007

Westbay Instruments Inc.®

MP55 Packer Inflation Field Record

1/2

Project:	Client:	By:	Date: Sept 22/07
Location:	Well No.	Borehole Diameter:	
Packer No. 9	Depth:	Computer Data File:	.WDF
Inf-Tool No.	Vent Tool No.	Volume Pumped:	Vol Returned
H-B Valve: (P_H)	Offset (P_V).	Confirm Venting (Vent Tool Data) (Y/N)	
Vent Tool Pressure (Shoe Out, P_O)		Final Inf'n Vol:	Final Press: (P_F)
Comments: Pump to 915 psi		Calc'd Element Pressure ($P_F + P_V - P_O$)	
		Confirm Pkr Valve Closed (Yes/No):	

Software Reminder

567 + 250 = 815 psi

Pumping Information

I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
0	0	468	567.0	7:56		Landed - start logging - shoes out
-	-	-	-	7:57		Test valve - EMS - OK
0.5	800	470	567.0	7:58		Pump to 800 psi
0.5	800	597	567.0	7:59		TIE - I
-	-	-	-	-		Start pumping
1	200	598	567.0	8:00		1L
2	300	671	567.1	8:02		2L
3	320	694	567.2	8:03		3L
4	340	699	567.2	8:04		4L
5	340	696	567.2	8:05		5L
5.4	340	696	573	8:06		Squeeze vent open
6	340	698	557.1	8:07		6L
7	340	702	553.8	8:08		7L
-	-	-	-	8:08		stop pump / refill cylinder
7	300	673	545.0	8:09		start pump
8	340	714	549.8	8:11		8L
9	360	732	550.8	8:12		9L
10	380	754	553.0	8:13		10L
11	400	778	550.4	8:14		11L
12	500	906	-	8:16		12L
12.0	440	934	540.5	8:16		pump off / TIE-off
12	440	892	541.2	8:17		close EMS valve
-	-	-	-	8:17		10 min Q/A start
12	440	856	544.1	8:20		

Westbay Instruments Inc.

MP55 Packer Inflation Field Record

2/2

Project: _____ Client: _____	By: _____ Date: _____
Location: _____ Well No. _____	Borehole Diameter: _____
Packer No. 9 Depth: _____	Computer Data File: _____.WDF
Inf-Tool No. _____ Vent Tool No. _____	Volume Pumped: _____ Vol Returned _____
H-B Valve: (P_H) _____ Offset (P_V). _____	Confirm Venting (Vent Tool Data) (Y/N) _____
Vent Tool Pressure (Shoe Out, P_O) _____	Final Inf'n Vol: _____ Final Press: _____ (P_F)
Comments: _____	Calc'd Element Pressure ($P_F + P_V - P_O$) _____
_____	Confirm Pkr Valve Closed (Yes/No): _____

Software Reminder

I = Inflate, O = Off, C = Close

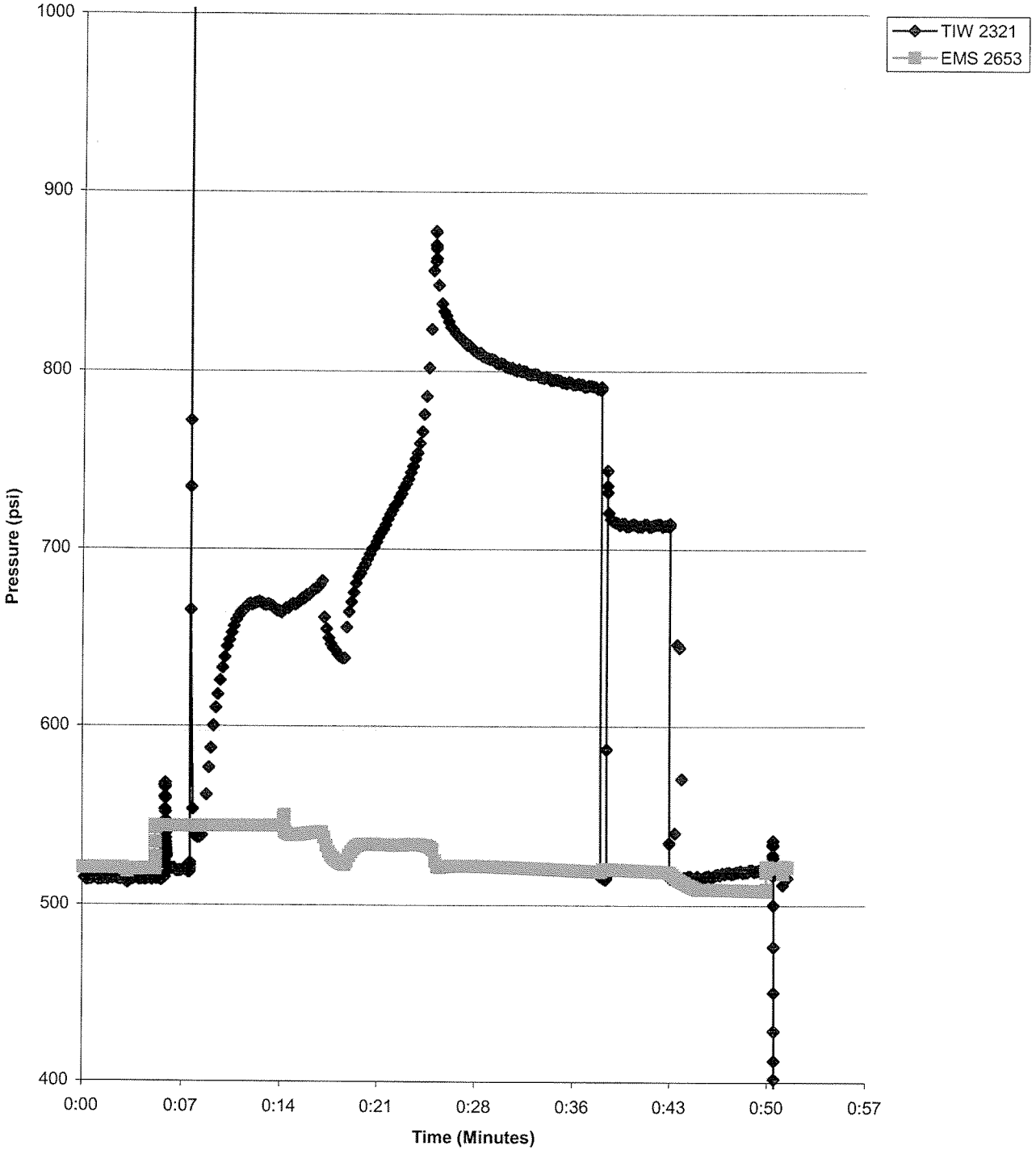
Pumping Information

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
12	440	843	545.8	8:25		
12	440	841	546.3	8:27		
12.2	800	839	546.5	8:28		Pump to 800 psi
12.2	760	535	546.6	8:28		TIE - close
11.75	0	567	546.9	8:28		Vent line / TIE-off
–	–	–	–	8:29		5 min Q/A start
11.75	0	575	547.3	8:31		
11.75	0	576	547.5	8:32		
11.75	0	578	547.8	8:34		
		572	548.2	8:35		TIE shoe in
		563	540.4	8:37		EMS shoe in
		535	540.8	8:40		move tools suction
						stop logging / save

MP 55 Packer Inflation Record

Company: Westbay Instruments Inc.
Site: Bruce Power
Description: Packer 10
Well:DGR-01
WB: 860
Comment:

Packer: 0612-553
Packer Depth:350.0



WB860 Packer 10 0612-553.xls

Plot By:_____
10/18/2007

Westbay Instruments Inc.

MP55 Packer Inflation Field Record

Project:	Client:	By:	Date:
Location:	Well No.	Borehole Diameter:	
Packer No. 10	Depth:	Computer Data File:	.WDF
Inf-Tool No.	Vent Tool No.	Volume Pumped:	Vol Returned
H-B Valve: (P_H)	Offset (P_V).	Confirm Venting (Vent Tool Data) (Y/N)	
Vent Tool Pressure (Shoe Out, P_O)		Final Inf'n Vol:	Final Press: (P_F)
Comments: Pump to 894 psi		Calc'd Element Pressure ($P_F + P_V - P_O$)	
		Confirm Pkr Valve Closed (Yes/No):	

Software Reminder
I = Inflate, O = Off, C = Close

544+250 = 794 psi

Pumping Information

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
0	0	515	520.9	8:48		Landed / record
—	—	—	—	8:48		EMS shoe out
0	0	515	520.2	8:52		Reland tools
0	0	515	544.2	8:53		EMS shoe out
0	0	528	544.2	8:54		TIE shoe out
0.5	800	520	544.2	8:55		Pump to 800 psi
0.5	150	734	544.2	8:56		TIE-I
0.5	150	538	544.2	8:56		Start Pumping
1	240	597	544.2	8:57		1L
2	300	650	544.3	8:58		2L
3	320	668	544.4	9:00		3L
4	320	668	544.4	9:01		4L
5	320	665	548	9:02		5L
5.05	320	665	539.1	9:02		Squeeze vent open
6	320	672	539.7	9:04		6L
7	330	682	540.7	9:05		7L
-	-	-	-	9:05		stop pump/ref. ll reservoir
7	200	639	522.7	9:07		start pump
8	320	692	533.8	9:08		8L
9	350	711	533.6	9:10		9L
10	380	731	533.4	9:11		10L
11	400	762	533.7	9:12		11L
11.75	400	881	529.9	9:14		Pump off / TIE-OFF
11.75	400	834	521.5	9:14		EMS valve close

Westbay Instruments Inc.

MP55 Packer Inflation Field Record

2/2

Project:	Client:	By:	Date: Sept 22/07
Location:	Well No.	Borehole Diameter:	
Packer No. 10	Depth:	Computer Data File:	.WDF
Inf-Tool No.	Vent Tool No.	Volume Pumped:	Vol Returned
H-B Valve: (P_H)	Offset (P_V).	Confirm Venting (Vent Tool Data) (Y/N)	
Vent Tool Pressure (Shoe Out, P_O)		Final Inf'n Vol:	Final Press: (P_F)
Comments:		Calc'd Element Pressure ($P_F + P_V - P_O$)	
		Confirm Pkr Valve Closed (Yes/No):	

Software Reminder

I = Inflate, O = Off, C = Close

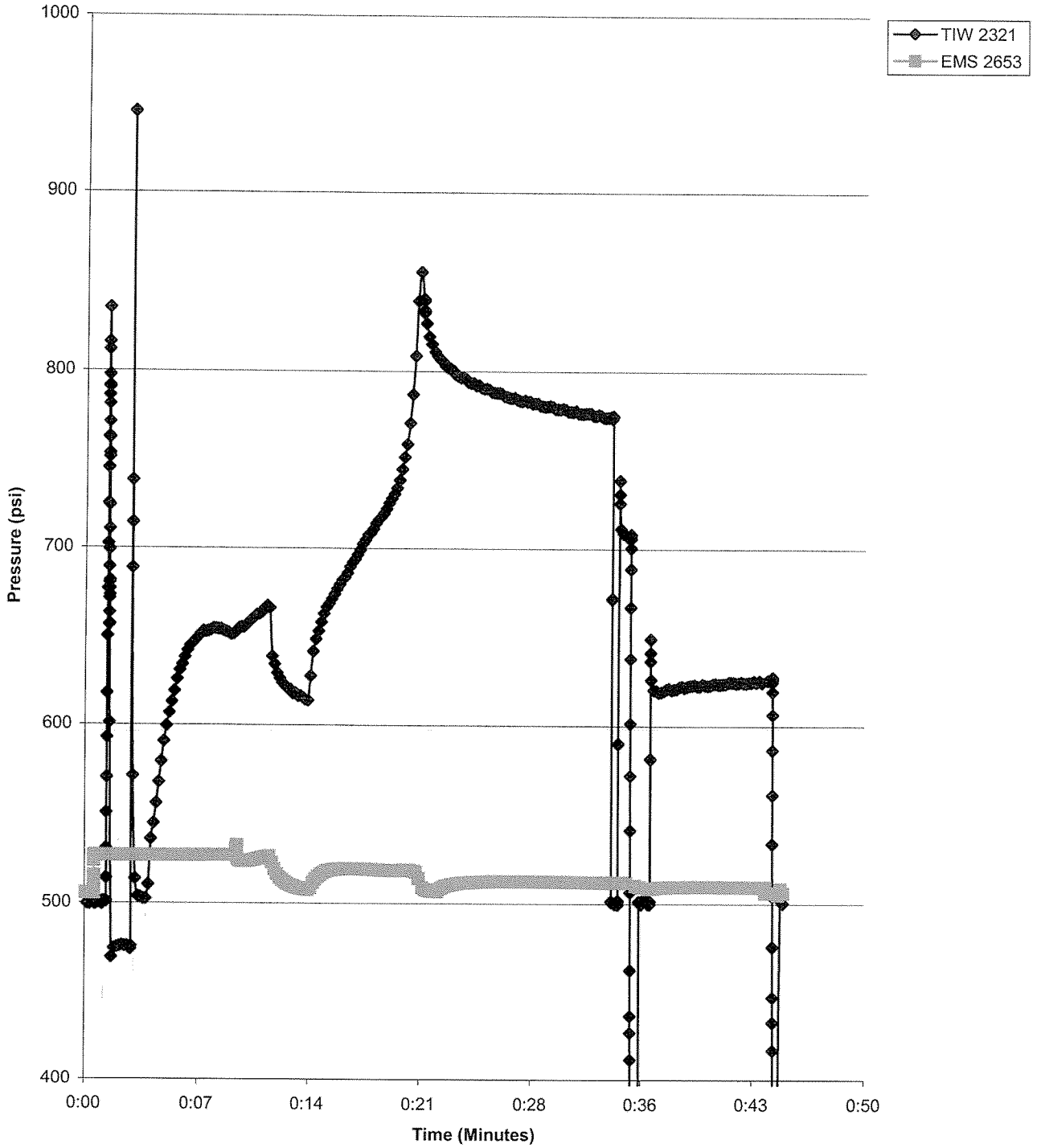
Pumping Information

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
11.75	400	834	521.5	9:15		Start 10 min O/A
		806	521.6	9:18		
		796	520.2	9:22		
		792	519.2	9:25		
12.0	800	791	518.9	9:25		Pump to 800 psi
12.0	750	516	520.1	9:26		TIE-close
11.5	0	720	520.1	9:27		Vent line / TIE-O
11.5	0	516	517.3	9:31		TIE-C
11.6	150	646	514.9	9:32		pump to 150psi
11.5	0	516	512.0	9:32		Vent line
11.5	0	514	508.9	9:33		TIE-OFF / O/A start
11.5	0	519	508.3	9:37		5 min O/A
11.5	0	519	508.1	9:38		
		520	521.2	9:38		EMS - shoe in
		348	521.1	9:39		TIE - shoe in
		516	521.6	9:39		move TIE/suction
						stop logging / save

MP 55 Packer Inflation Record

Company: Westbay Instruments Inc.
Site: Bruce Power
Description: Packer 11
Well:DGR-01
WB: 860
Comment: First Inflation, Leaking Valve

Packer: 0612-573
Packer Depth:339.4



WB860 Packer 11 0612-573.xls

Plot By:_____
10/18/2007

Westbay Instruments Inc.

MP55 Packer Inflation Field Record

1/2

Project:_____ Client: _____	By:_____ Date:_____
Location:_____ Well No._____	Borehole Diameter:_____
Packer No. 11 Depth:_____	Computer Data File:_____.WDF
Inf-Tool No._____ Vent Tool No._____	Volume Pumped:_____ Vol Returned_____
H-B Valve: (P_H) _____ Offset (P_V). _____	Confirm Venting (Vent Tool Data) (Y/N) _____
Vent Tool Pressure (Shoe Out, P_O) _____	Final Inf'n Vol:_____ Final Press:_____ (P_F)
Comments:_____ Pump to 860	Calc'd Element Pressure ($P_F + P_V - P_O$)_____ Confirm Pkr Valve Closed (Yes/No): _____

526+250 = 775

Pumping Information

Software Reminder
I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
0	0	500	505.5	9:45		Landed / record
		501	526.4	9:46		EMS shoe out
		811	526.4	9:46		TIE shoe out
0.5	800	476	526.4	9:47		Pump to 800 psi
0.5	50	688	526.4	9:48		TIE-I
		535	526.4	9:49		Start pumping
1	250	555	526.5	9:49		1L
2	320	618	526.5	9:50		2L
3	360	646	526.6	9:52		3L
4	370	654	526.6	9:53		4L
5	370	651	526.7	9:54		5L
5.4	370	655	570	9:55		Squeeze vent open
6	370	658	527.5	9:55		6L
7	370	667	526.1	9:57		7L
7	200	614	507.7	9:59		Stop pump / refill reservoir
8	340	670	518.5	10:01		8L
9	360	690	519.2	10:02		9L
10	380	710	518.9	10:03		10L
11	400	735	518.3	10:04		11L 12L-800 psi
12.2	400	863	508	10:07		pump off / TIE-O
12.2	380	807	508.3	10:08		EMS valve closed
–	–	–	–	10:08		10 min d/A start
12.2	380	789	512.2	10:11		
		781	512.4	10:14		

Westbay Instruments Inc.

MP55 Packer Inflation Field Record

2/2

Project:_____ Client: _____	By:_____ Date:_____
Location:_____ Well No._____	Borehole Diameter:_____
Packer No. 11 Depth:_____	Computer Data File:_____.WDF
Inf-Tool No._____ Vent Tool No._____	Volume Pumped:_____ Vol Returned_____
H-B Valve: (P_H) _____ Offset (P_V). _____	Confirm Venting (Vent Tool Data) (Y/N) _____
Vent Tool Pressure (Shoe Out, P_O) _____	Final Inf'n Vol:_____ Final Press:_____ (P_F)
Comments:_____	Calc'd Element Pressure ($P_F + P_V - P_O$)_____
_____	Confirm Pkr Valve Closed (Yes/No): _____

Software Reminder

Pumping Information

I = Inflate, O = Off, C = Close

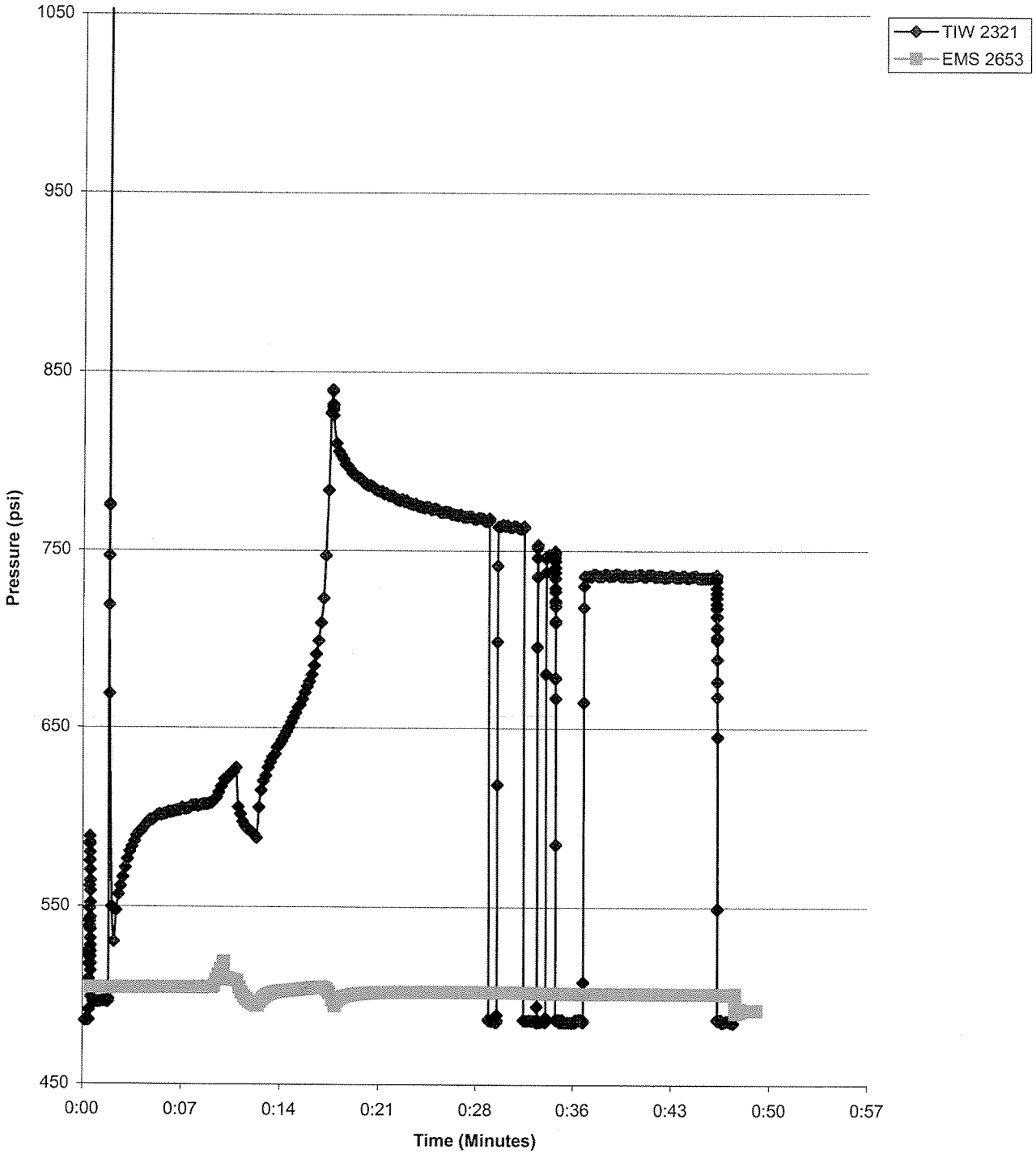
Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
12.2	380	775	511.9	10:18		Q/A
12.5	800	775	511.8	10:19		Pump to 900 psi
12.5	780	501	512.1	10:19		TIE - close
12.0	0	708	511.8	10:20		Vent line / TIE - O
		362	511.8	10:20		TIE - Shoe in
		620	509.0	10:22		TIE - C / Shoe out / TIE-O
		621	509.4	10:23		5 min Q/A start
		623	509.5	10:25		
		625	509.4	10:28		
		625	506.2	10:29		Shoe in - EMS
		500	503.6	10:30		TIE shoe in
						Stop logging / save
						Water Level Readings MP
						SHOE OUT TIE W/L STOPPED
						Pump to 900
		855	506.1	10:37		TIE INF
		839	506.2	10:38		
		810	506.2	10:39		TIE OFF
		803	506.2	10:40		Pump to 1000 - 1200
						TIE CLOSE
		747	506.2			TIE OFF Vent Lines
		500	506.2	10:45		SHOE IN TIE

~~W/L to MP NOT Raising~~
~~Packer Valve Closed~~ ✓

MP 55 Packer Inflation Record

Company: Westbay Instruments Inc.
Site: Bruce Power
Description: Packer 12
Well:DGR-01
WB: 860
Comment:

Packer: 0612-585
Packer Depth:328.9m



WB860 Packer 12 0612-585.xls

Plot By:_____
10/19/2007

Westbay Instruments Inc.

MP55 Packer Inflation Field Record

Project:	Client:	By:	Date: Sept 23/07
Location:	Well No.	Borehole Diameter:	
Packer No. 12	Depth:	Computer Data File:	.WDF
Inf-Tool No.	Vent Tool No.	Volume Pumped:	Vol Returned
H-B Valve: (P_H)	Offset (P_V).	Confirm Venting (Vent Tool Data) (Y/N)	
Vent Tool Pressure (Shoe Out, P_O)		Final Inf'n Vol:	Final Press: (P_F)
Comments: Pump to 848 psi		Calc'd Element Pressure ($P_F + P_V - P_O$)	
		Confirm Pkr Valve Closed (Yes/No):	

505 + 250 = 755

Pumping Information

Software Reminder
I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
0	0	486	490.9			Landed / start logging
0	0	486	504.6			EMS shoe out
0	0	584	504.6	12:09		TIE shoe out
0.5	800	497	504.6	12:10		Pump to 800 psi
0.5	200	1145	504.7	12:11		TIE-I
0.5	200	529	504.6	12:12		start pumping
1	220	568	504.6	12:12		1L
2	280	594	504.6	12:14		2L
3	280	601	504.7	12:15		3L
4	280	604	504.7	12:16		4L
5	280	607	504.8	12:18		5L
6	300	611	510	12:19		6L
6.4	300	622	516	12:20		squeeze vent open
7	300	628	509.7	12:20		7L
7	—	-	-	-		stop pump / retrl reservoir
7	200	590	495.8	12:22		start pmp
8	290	637	502.2	12:23		8L
9	320	657	503.5	12:25		9L
10	340	690	504.8	12:26		10L
		843				pump off / TIE OFF
10.75	900	815	500	12:28		vent closed
—	-	-	-	12:28		10 min a/A start
10.75	770	788	501.5	12:30		
10.75	770	775	502.2	12:34		

Westbay Instruments Inc.

MP55 Packer Inflation Field Record

Project:_____ Client: _____	By:_____ Date: Sept 23/07
Location:_____ Well No._____	Borehole Diameter:_____
Packer No. 12 Depth:_____	Computer Data File:_____.WDF
Inf-Tool No._____ Vent Tool No._____	Volume Pumped:_____ Vol Returned_____
H-B Valve: (P_H) _____ Offset (P_V). _____	Confirm Venting (Vent Tool Data) (Y/N) _____
Vent Tool Pressure (Shoe Out, P_O) _____	Final Inf'n Vol:_____ Final Press:_____ (P_F)
Comments:_____	Calc'd Element Pressure ($P_F + P_V - P_O$)_____
_____	Confirm Pkr Valve Closed (Yes/No): _____

Target 755 psi.

Pumping Information

Software Reminder
I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
10.75	370	769	502.3	12:38		
11	800	768	502.3	12:38		Pump to 800 psi
	780	486	502.2			TIE - close
10.5	⑧ ~~800~~ 0	764	502			Vent line / TIE - OFF
10.5	⑧ ~~800~~ 0	767	502	12:41		5 min Q/A start
		486	502	12:42		TIE - C No observed water level change
		486	502	12:43		TIE - I No observed water level change
		748	502	12:43		TIE - O
		685	502			Shoe in / TIE - C No observed WL change
		736	502	12:46		Shoe out / TIE - O No observed WL change
—	—	—	—	12:46		5 min Q/A start
		735	501.4	12:52		
		735	501.4	12:53		
		734	501.4	12:54		EMS shoe in Rot 1
		436	501.3	12:56		TIE shoe in
		685	490.9	12:57		EMS Home
						Save data

INF PKR HEIGHT

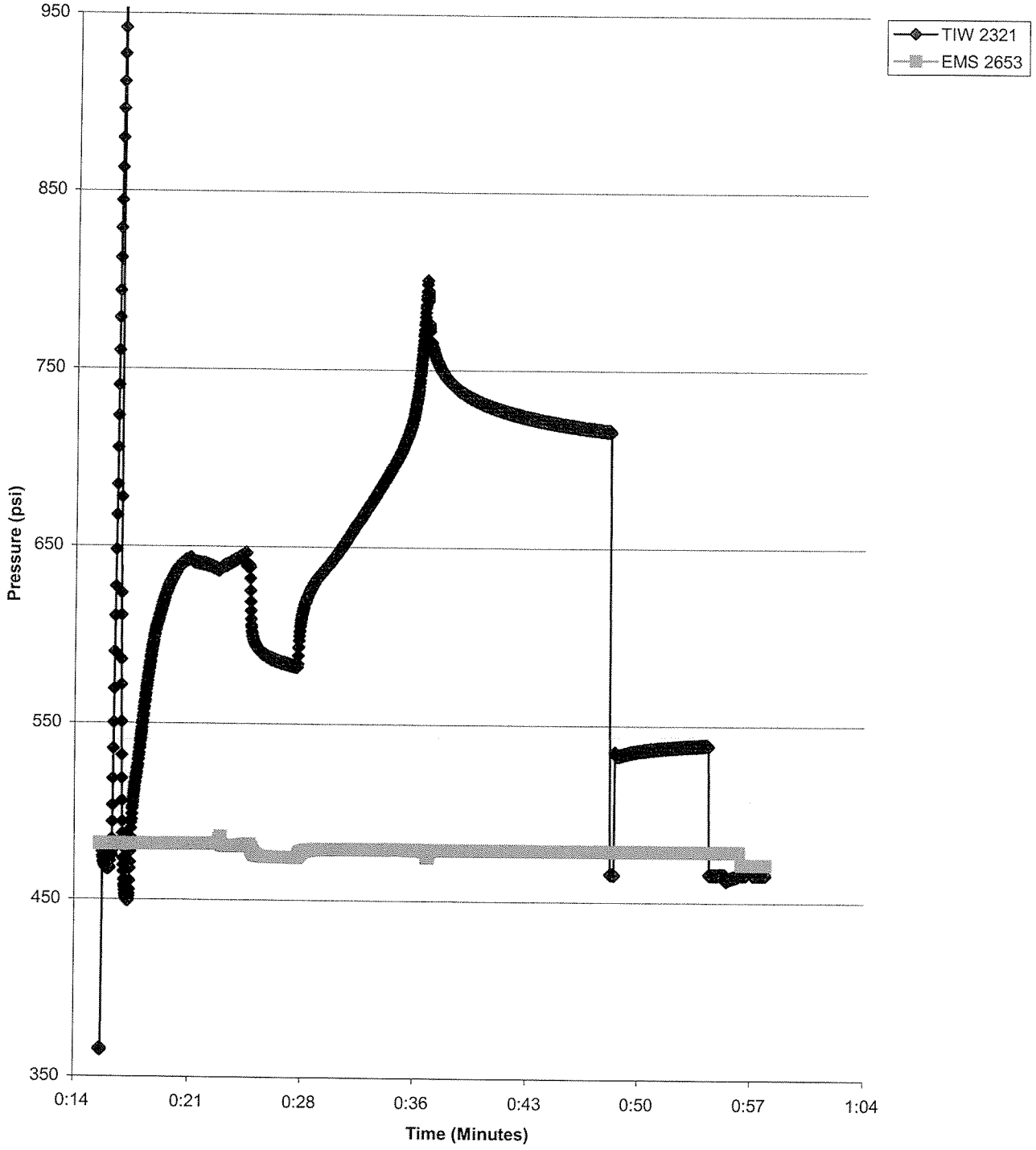
WL = water level

⑧ Guage tapped

MP 55 Packer Inflation Record

Company: Westbay Instruments Inc.
Site: Bruce Power
Description: Packer 13
Well:DGR-01
WB: 860
Comment:

Packer: 0612-580
Packer Depth:315.1m



WB860 Packer 13 0612-580.xls

Plot By:_____
10/19/2007

Westbay Instruments Inc.

MP55 Packer Inflation Field Record

Project:_____ Client:_____	By:_____ Date: Sept 23/07
Location:_____ Well No._____	Borehole Diameter:_____
Packer No. 13 Depth:_____	Computer Data File:_____.WDF
Inf-Tool No._____ Vent Tool No._____	Volume Pumped:_____ Vol Returned_____
H-B Valve: (P_H) _____ Offset (P_V). _____	Confirm Venting (Vent Tool Data) (Y/N) _____
Vent Tool Pressure (Shoe Out, P_O) _____	Final Inf'n Vol:_____ Final Press:_____ (P_F)
Comments:_____ Pump to 800	Calc'd Element Pressure ($P_F + P_V - P_O$)_____ Confirm Pkr Valve Closed (Yes/No): _____

480 + 250 = 730

Pumping Information

Software Reminder
I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
0	0	467	473.4	1:19		Landed / start logging
		467	515.5	1:20		EMS shoe out
		459	515.9	1:21		TIE shoe out
0.5	800	800	497.5	1:24		Pump to 800 psi
						TIE - I - Reland tools
		465	481.9	1:29		EMS - shoe out
		461	481.4	1:30		TIE - shoe out
		466	481.4	1.32		TIE - shoe in (had suction)
		814	481.4	1.33		TIE - shoe out
						Squeeze pressure opened valve / not true
		468	481.4	1:35		TIE - I - pump - valve opened
1	220	525	481.5	1:38		1L
2	360	602	481.5	1.39		2L
3	400	633	481.5	1:40		3L
4	400	643	481.6	1.41		4L
5	400	639	481.7	1.42		5L
5.5	400	645	486	1.43		6L squeeze relief open
6	400	641	480.4	1.43		6L
7	400	639	481.4	1.45		7L
						Stop pump / refill reservoir
7	208	582	474.2	1:48		Start pumping
8	380	635	478.7	1:49		8L
9	320	655	478.9	1:51		9L
10	340	675	478.9	1:52		10L

Westbay Instruments Inc.

MP55 Packer Inflation Field Record

Project:_____ Client: _____	By:_____ Date: Sept 23/07
Location:_____ Well No._____	Borehole Diameter:_____
Packer No. 13 Depth:_____	Computer Data File:_____.WDF
Inf-Tool No._____ Vent Tool No._____	Volume Pumped:_____ Vol Returned_____
H-B Valve: (P_H) _____ Offset (P_V). _____	Confirm Venting (Vent Tool Data) (Y/N) _____
Vent Tool Pressure (Shoe Out, P_O) _____	Final Inf'n Vol:_____ Final Press:_____ (P_F)
Comments:_____ Pump to 800 psi	Calc'd Element Pressure ($P_F + P_V - P_O$)_____ Confirm Pkr Valve Closed (Yes/No): _____

Target 730 psi

Pumping Information

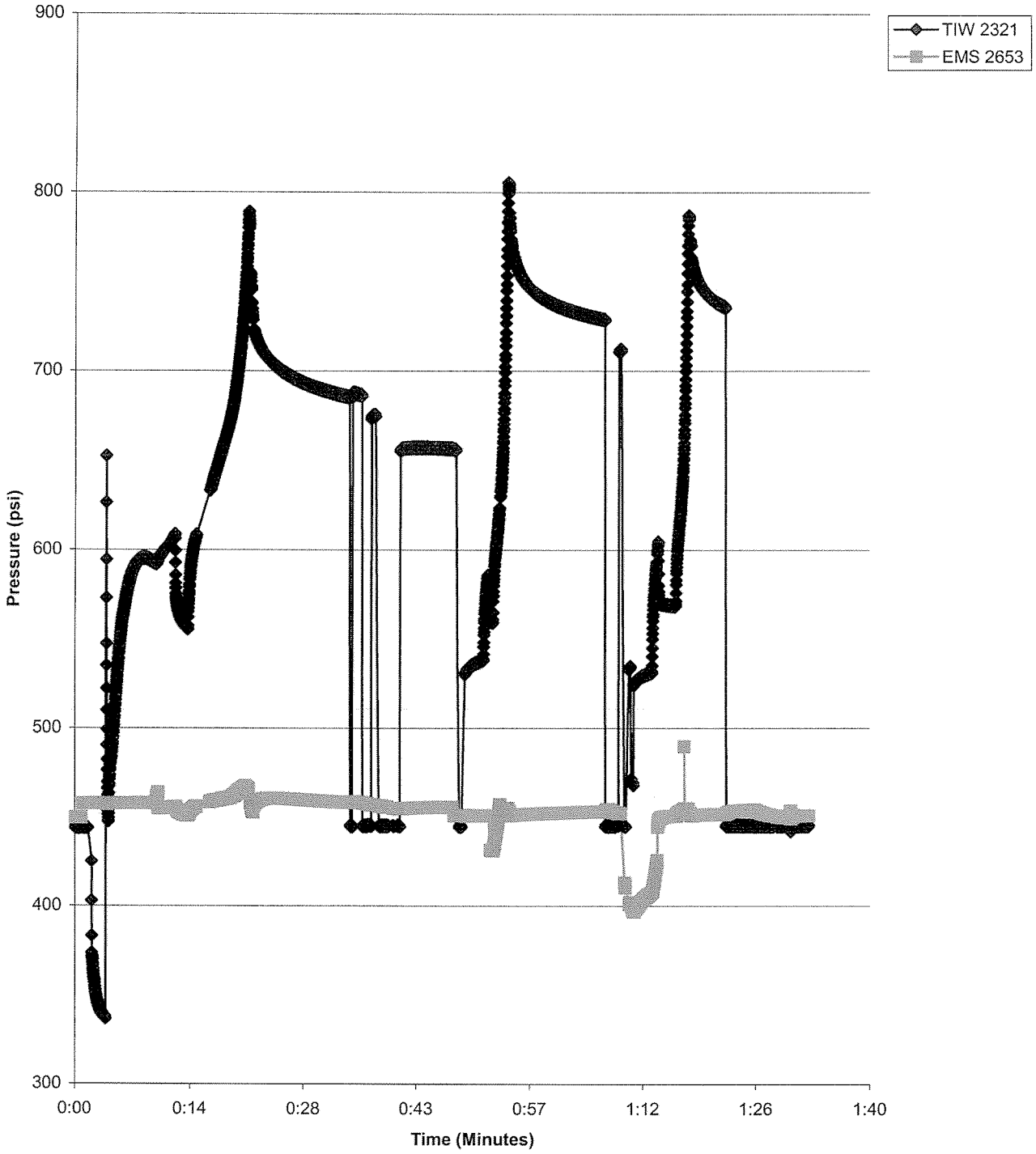
Software Reminder
I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
11	360	698	479.1	1:54		11 L
12	420	750	479.1			12 L
12.2	440	798	478.5			Pump off / TIE-OFF
12.2	360	761	478.8	1:56		EMS valve closed
—	—	—	—	1:57		6 mm Q/A start
12.2	360	735	478.8	1:59		
		723	478.7	2:03		
	360	717	478.7	2:07		
12.5	800	716	478.7	2:08		pump to 800 psi
12.5	780	466	478.7	2:08		TIE-C
12	0	534	478.7	2:09		Vent line / TIE-O
—	—	—	—	2:09		5 mm Q/A
		538	478.7	2:12		
		539	478.7	2:14		
						TIE-C no observed water level change
		466	478.7	2:15		TIE-I " " " " "
		463	478.7	2:15		TIE-O
		466	474.5	2:16		EMS shoe in
		465.5	471.6	2:17		TIE shoe in
						Stop logging / save

MP 55 Packer Inflation Record

Company: Westbay Instruments Inc.
Site: Bruce Power
Description: Packer 14
Well:DGR-01
WB: 860
Comment:

Packer: 0612-557
Packer Depth:300.7m



Plot By:_____

WB860 Packer 14 0612-557.xls

10/19/2007

Westbay Instruments Inc.

MP55 Packer Inflation Field Record

1

Project:_____ Client: _____	By:_____ Date: Sept 23/07
Location:_____ Well No._____	Borehole Diameter:_____
Packer No. 14 Depth:_____	Computer Data File:_____.WDF
Inf-Tool No._____ Vent Tool No._____	Volume Pumped:_____ Vol Returned_____
H-B Valve: (P_H) _____ Offset (P_V). _____	Confirm Venting (Vent Tool Data) (Y/N) _____
Vent Tool Pressure (Shoe Out, P_O) _____	Final Inf'n Vol:_____ Final Press:_____ (P_F)
Comments: 790 Pump to [illegible] psi	Calc'd Element Pressure ($P_F + P_V - P_O$)_____ Confirm Pkr Valve Closed (Yes/No): _____

458+250 = 708

Pumping Information

Software Reminder
I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
0	0	444	450.0	2:25		Landed / Record
		464	457.8	2:26		EMS shoe out
		610	457.8	2:27		TIE shoe out
0.5	800	339	457.8	2:28		Pump to 800 psi
0.5	150	696	457.9	2:28		TIE-I
0.5	150		457.9	2:28		start pumping
1	240	491	457.8	2:29		1L
2	320	562	457.9	2:30		2L
3	320	589	457.9	2:32		3L
4	340	595	458.0	2:33		4L
5	340	592	458.1	2:34		5L
5.5	340	594	462	2:35		squeeze vent opened
6	340	599	455.1	2:35		6L
7	340	609	455.8	2:37		7L
–	–	–	–	–		stop pump / refl reservoir
7	180	556	451.0	2:38		start pump
8	300	614	456.7	2:40		8L
9	320	634	456.7	2:42		9L
10	340	657	460.4	2:43		10L
11	380	684	462.5	2:44		11L
12	420	757				12L
12.15	–	789	457.8	2:47		pump off / TIE -off
12.15	320	716	459.1	2:47		vent relief off
–	–	–	–	2:48		10 min/A start

Westbay Instruments Inc.

MP55 Packer Inflation Field Record

2

Project:_____ Client: _____	By:_____ Date:_____
Location:_____ Well No._____	Borehole Diameter:_____
Packer No. 14 Depth:_____	Computer Data File:_____.WDF
Inf-Tool No._____ Vent Tool No._____	Volume Pumped:_____ Vol Returned_____
H-B Valve: (P_H) _____ Offset (P_V). _____	Confirm Venting (Vent Tool Data) (Y/N) _____
Vent Tool Pressure (Shoe Out, P_O) _____	Final Inf'n Vol:_____ Final Press:_____ (P_F)
Comments:_____ 790	Calc'd Element Pressure ($P_F + P_V - P_O$)_____ Confirm Pkr Valve Closed (Yes/No): _____

Software Reminder

Target 708 psi **Pumping Information** I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
12.15	320	703	460.6	2:50		O/A
12.15	320	693	459.5	2:54		
		685	458.4	2:58		
12.45	800	685	458.2	2:59		Pump to 800 psi
12.45	780	646	458.5	2:59		TIE-C
12.0	0	688	458.5	3:00		Vent line / TIE-O
		445	458	3:01		TIE-C No change in water level
		466	457	3:01		TIE-I No change in water level
		445	456	3:03		TIE shoe in / TIE-C No change in
		443	455	3:05		TIE shoe out No change in water level
		657	455	3:06		TIE-off
—	—	—	—	3:06		5 min O/A start
		656	455.5	3:09		
		656	455.6	3:11		no observed water level change
		656	450.9	3:12		EMS shoe in
		445	450.9	3:13		TIE shoe in - packer started deflating water flowing
						~~Stop Logging / Send Info~~
		534	451.0	3:14		TIE shoe out - water stopped flowing
		537	451.0	3:15		TIE-I
		589	471	3:17		Stop Start pumping / EMS shoe out
						Cont pumping
12.9		633	457.4			EMS vent open
13.5		800	451	3:20		Pump off / TIE-O / vent closed
—	—	400	—	3:20		10 min O/A start

Westbay Instruments Inc.

MP55 Packer Inflation Field Record

3

Project:_____ Client: _____	By:_____ Date:_____
Location:_____ Well No._____	Borehole Diameter:_____
Packer No. 14 Depth:_____	Computer Data File:_____.WDF
Inf-Tool No._____ Vent Tool No._____	Volume Pumped:_____ Vol Returned_____
H-B Valve: (P_H) _____ Offset (P_V). _____	Confirm Venting (Vent Tool Data) (Y/N) _____
Vent Tool Pressure (Shoe Out, P_O) _____	Final Inf'n Vol:_____ Final Press:_____ (P_F)
Comments:_____ 780 ~~800~~	Calc'd Element Pressure ($P_F + P_V - P_O$)_____
	Confirm Pkr Valve Closed (Yes/No): _____

Software Reminder

Pumping Information

I = Inflate, O = Off, C = Close

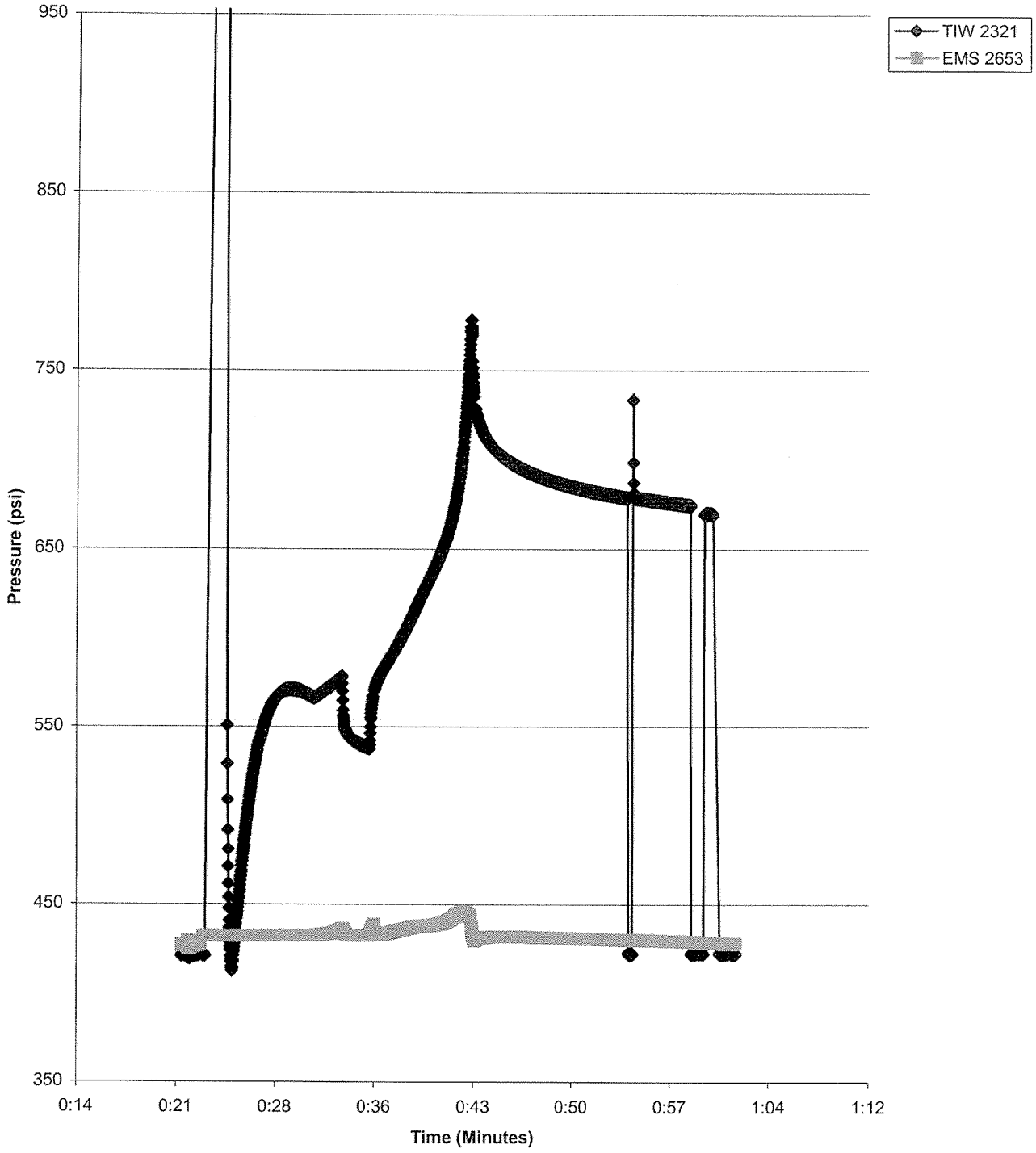
Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
13.5	380	742	452.0	3:22		
		735	452.5	3:26		
		730	453.0	3:30		
14.1	1200	730	453	3:31		Pump to 1200 psi
14.1	1160	446	454	–		TIE - Close
13.3	0	445	454	3:32		vent line / ~~TIE - O~~
		445	452	3:33		TIE - I
		445	910	3:33		TIE - O / shoe in - water flowing
		533	402	3:35		TIE / shoe out
		470	398			TIE - C
		526	398			TIE - O
13.25		531	406.4			TIE - I / pump
14		602	448	3:38		EMS vent open / stop pump / refill
14	200	569	450.8	3:40		start pumping
15		782	452.2			stop pump / TIE - O
15	360	759	451.1	3:43		EMS vent off / Q/A start 3:43
		741	451.1	3:45		2 min
15.6	1200	736	451.7	3:46		pump to 1200 psi
15.6	1140	446	452.9	3:47		TIE - C
	1100	445	454.1	3:50		
14.8	0	445	454.1	3:50		vent line
		446	451.8	3:52		No water level change
		446	450.4	3:54		TIE - shoe in NO WATER LEVEL CHANGE
		445	450.9	3:54		EMS - shoe in
		445	450.9	3:58		stop logging / save data

Last 1200

MP 55 Packer Inflation Record

Company: Westbay Instruments Inc.
Site: Bruce Power
Description: Packer 15
Well:DGR-01
WB: 860
Comment:

Packer: 0612-584
Packer Depth:284.7m



Plot By:_____

WB860 Packer 15 0612-584.xls

10/19/2007

Westbay Instruments Inc.

MP55 Packer Inflation Field Record

Project:_____ Client:_____	By:_____ Date: Sept 27/07
Location:_____ Well No._____	Borehole Diameter:_____
Packer No. 15 Depth:_____	Computer Data File:_____.WDF
Inf-Tool No._____ Vent Tool No._____	Volume Pumped:_____ Vol Returned_____
H-B Valve: (P_H) _____ Offset (P_V). _____	Confirm Venting (Vent Tool Data) (Y/N) _____
Vent Tool Pressure (Shoe Out, P_O) _____	Final Inf'n Vol:_____ Final Press:_____ (P_F)
Comments:_____ Pump to 780 psi	Calc'd Element Pressure ($P_F + P_V - P_O$)_____ Confirm Pkr Valve Closed (Yes/No): _____

Software Reminder
I = Inflate, O = Off, C = Close

432+250=682

Pumping Information

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
0	0	421	427.6	5:30		Landed / start logging
0	0	421	615	5:31		Ems shoe out / Dropping
						Reland tools
0	0	421		5:35		Ems shoe out - reland
0	0	424	432	5:44		Ems shoe out
0	0	1112	432.2	5:46		TIE shoe out
0.6	800	1097	432.2	5:47		Pump to 800 psi
		1127	432			TIE - I
		484	432			vent / TIE - off
						Reland tools
0	0	421	427.0	5:53		Landed
0	0	422	432	5:53		Ems shoe out
0	0	965	432.2	5:54		TIE shoe out
0.6	800	966	432.2	5:55		Pump to 800 psi
0.6	150	450	432.2	5:56		TIE - I
		442	432.2	5:56		Start pumping
1	250	471	432.2	5:56		1L
2	300	532	432.3	5:57		2L
3	340	563	432.3	5:58		3L
4	360	571	432.3	5:59		4L
5	360	569	432.3	6:01		5L
6	360	570	432.1	6:02		6L
7	360	577	432	6:03		7L
						Stop pump / refill reservoir

Westbay Instruments Inc.

MP55 Packer Inflation Field Record

Project:	Client:	By:	Date:
Location:	Well No.	Borehole Diameter:	
Packer No. 15	Depth:	Computer Data File:	.WDF
Inf-Tool No.	Vent Tool No.	Volume Pumped:	Vol Returned
H-B Valve: (P_H)	Offset (P_V).	Confirm Venting (Vent Tool Data) (Y/N)	
Vent Tool Pressure (Shoe Out, P_O)		Final Inf'n Vol:	Final Press: (P_F)
Comments: Pump to 780 psi.		Calc'd Element Pressure ($P_F + P_V - P_O$)	
		Confirm Pkr Valve Closed (Yes/No):	

Software Reminder

I = Inflate, O = Off, C = Close

Target 682

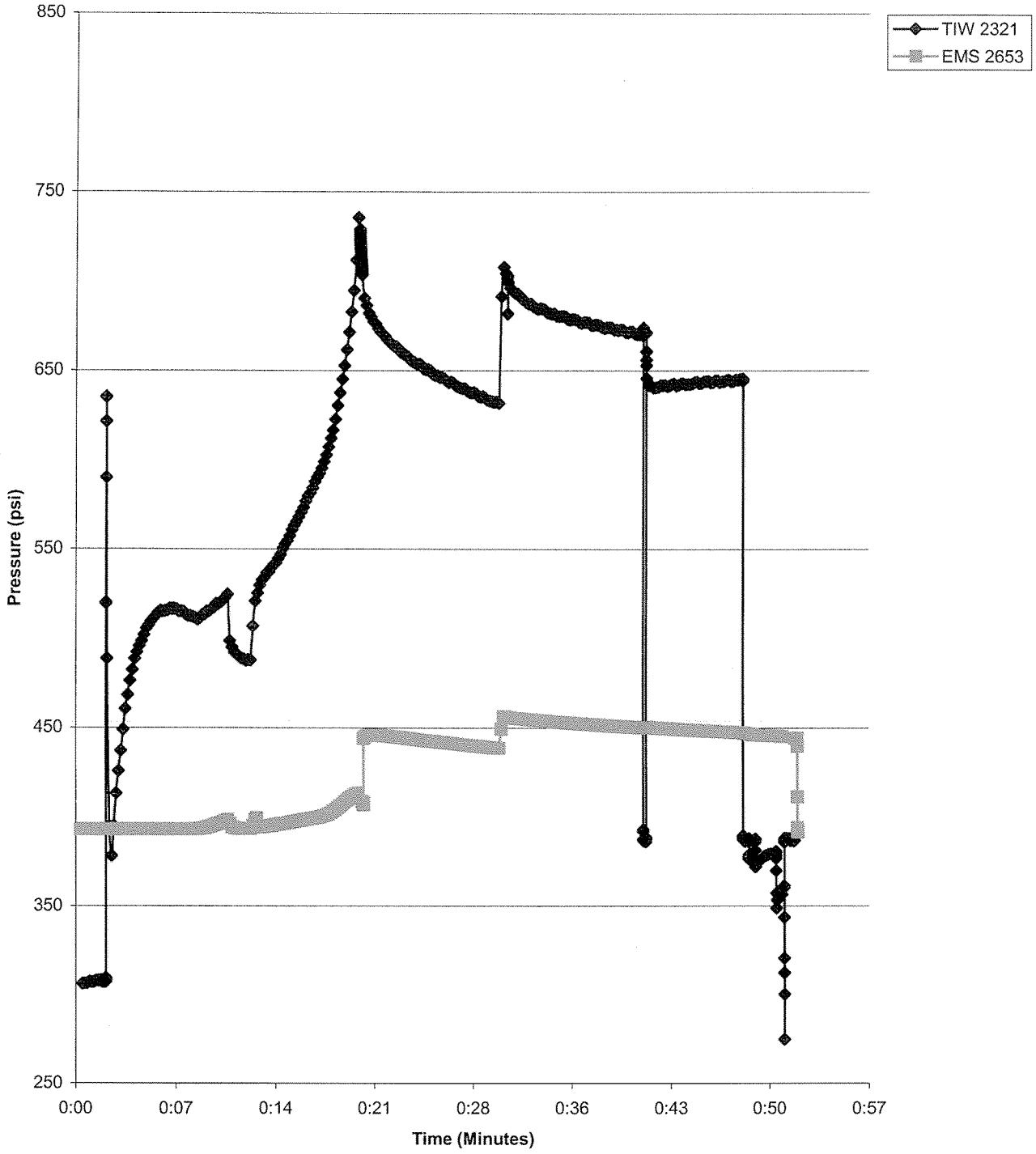
Pumping Information

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
7	200	500	432.4	3:05		Start pumping
7.1	300	573	438	3:06		Squeeze vent open
8	340	586	433.8	3:07		8L
9	340	604	436.3	3:08		9L
10	380	627	437.8	3:09		10L
11	400	651	439.6	3:11		11L
12	440	698	445.2			12L
12.4		774	443			Pump off / TIE-O
12.4	800	735	430.7	3:13		Squeeze vent off
-	-	-	-	3:13		10 min a/A start
		699	431.9	3:16		
		690	431.5	3:19		
12.4	400	681	430.4	3:23		
12.7	800	680	430.1	3:24		Pump to 800 psi
12.7	760	423	420.0			TIE-C
12.2	0	678	430.0	3:25		Vent Inc / TIE-O
		677	429.6	3:27		5 min a/A
		674	429.2	3:29		
		423	429.2			TIE-C water level is constant
		423	428.9			TIE-I water level is constant
		670	428.6			TIE-O
		423	428.3	3:31		TIE Shoe in - water level is constant
		422	428.0	3:32		EMS Shoe in
						Stop logging / Save

MP 55 Packer Inflation Record

Company: Westbay Instruments Inc.
Site: Bruce Power
Description: Packer 16
Well:DGR-01
WB: 860
Comment:

Packer: 0612-576
Packer Depth:259.6m



Plot By:_____

WB860 Packer 16 0612-576.xls

10/19/2007

Westbay Instruments Inc.

MP55 Packer Inflation Field Record

Project:	Client:	By:	Date: Sept 23-24/07
Location:	Well No.	Borehole Diameter:	
Packer No. 16	Depth:	Computer Data File:	.WDF
Inf-Tool No.	Vent Tool No.	Volume Pumped:	Vol Returned
H-B Valve: (P_H)	Offset (P_V).	Confirm Venting (Vent Tool Data) (Y/N)	
Vent Tool Pressure (Shoe Out, P_O)		Final Inf'n Vol:	Final Press: (P_F)
Comments: Pump to 740 psi		Calc'd Element Pressure ($P_F + P_V - P_O$)	
		Confirm Pkr Valve Closed (Yes/No):	

393+250: 643 psi

Pumping Information

Software Reminder
I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
0	0	386	390.9	3:38		Landed
0	0	385	393.1	3:39		Ems shoe out
0	0	1094	393.1	3:39		TIE Shoe out
		385	393.1	3:40		1 l/min
		392	393.0	3:41		2 l/min
0	0	306	393.0	8:10 am		Sept 24/07 start recording - both shoes out
0.5	800	307	393.0	8:12 am		Pump to 800 psi
0.5	140	594	393.1	8:13		TIE - I
0.5	140	378	393.0	8:13		start pumping
1	300	440	393.0	8:14		1L
2	320	490	393.1	8:14		2L
3	330	511	393.1	8:16		3L
4	340	516	393.2	8:17		4L
5	340	513	393.2	8:18		5L
6	340	515	394.5	8:20		6L
7	340	524	398.4	8:21		7L
-	-	-	-	8:21		stop pump / refil reservoir
7	170	488	392.4	8:27		start pump
7.3	340	527	398	8:23		squeeze vent open
8	360	538	395.0	8:24		8L
9	370	553	396.6	8:25		9L
10L	390	575	398.5	8:27		10L
11	400	595	400.4	8:28		11L
-	-	-	-	-		-

Westbay Instruments Inc.

MP55 Packer Inflation Field Record

Project: _____ Client: _____	By: _____ Date: Sept 26/07
Location: _____ Well No. _____	Borehole Diameter: _____
Packer No. 16 Depth: _____	Computer Data File: _____.WDF
Inf-Tool No. _____ Vent Tool No. _____	Volume Pumped: _____ Vol Returned _____
H-B Valve: (P_H) _____ Offset (P_V). _____	Confirm Venting (Vent Tool Data) (Y/N) _____
Vent Tool Pressure (Shoe Out, P_O) _____	Final Inf'n Vol: _____ Final Press: _____ (P_F)
Comments: Pump to 760 psi	Calc'd Element Pressure ($P_F + P_V - P_O$) _____
	Confirm Pkr Valve Closed (Yes/No): _____

Target 643 psi: **Pumping Information**

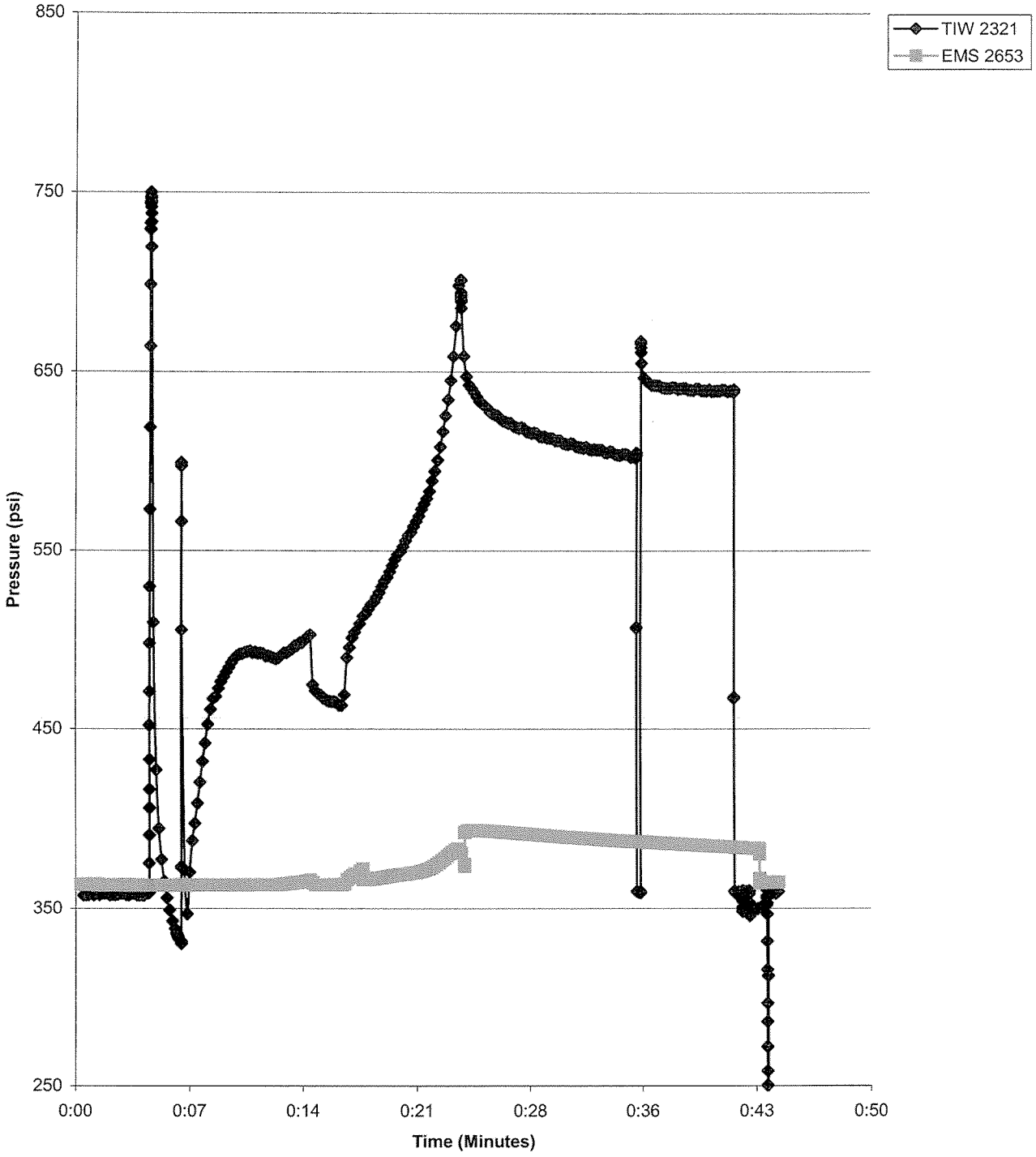
Software Reminder
I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
12	440	639	406.5	8:29		12L
-		742	413.6	8:30		Pump off / TIE-O
13.0	366	688	445.5	8:31		squeeze vent closed
-	-	-	-	8:31		10 min a/A start
13.0	340	668	445.6	8:33		
13.0	340	646	442.1	8:37		
13.0	300	631	438.7	8:41		
13.2		700	454	8:43		pump to 800 psi. - TIE was in inflate
13.2	340	684	454.0	8:44		pump off / TIE-O
13.2	360	673	450.9	8:49		5 min a/A
13.35	280	670	450.3	8:51		pump to 800 psi
	740	787	470.4			TIE-C
12.9	0	642	450.4	8:52		vent line / TIE-O
		648.7	448.9	8:55		5 min a/A
		644.5	447.9	8:57		
				8:59		TIE-C water level stable
		386	446.3	8:59		TIE-I water level stable
		375.4	846.1	9:00		TIE-O
		753	445.6	9:01		EMS shoe in Rot O
		386	444.3	9:02		TIE Home
		386	392.1	9:03		EMS Home
						stop logging / save

MP 55 Packer Inflation Record

Company: Westbay Instruments Inc.
Site: Bruce Power
Description: Packer 17
Well:DGR-01
WB: 860
Comment:

Packer: 0612-579
Packer Depth:240.1m



Plot By:_____

WB860 Packer 17 0612-579.xls

10/19/2007

Westbay Instruments Inc.

MP55 Packer Inflation Field Record

Project:_____ Client:_____	By:_____ Date:_____
Location:_____ Well No._____	Borehole Diameter:_____
Packer No. 17 Depth:_____	Computer Data File:_____.WDF
Inf-Tool No._____ Vent Tool No._____	Volume Pumped:_____ Vol Returned_____
H-B Valve: (P_H) _____ Offset (P_V). _____	Confirm Venting (Vent Tool Data) (Y/N) _____
Vent Tool Pressure (Shoe Out, P_O) _____	Final Inf'n Vol:_____ Final Press:_____ (P_F)
Comments: (75-130) Pump to 710 psi.	Calc'd Element Pressure ($P_F + P_V - P_O$)_____ Confirm Pkr Valve Closed (Yes/No): _____

363 + 250 = 613 psi.

Pumping Information

Software Reminder
I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
0	0	358	363.4	9:10		Landed / Record
		358	363.2			EMS shoe out - no ps change
		358	363.0	9:14		EMS valve open / close
0.0	0	747	363.0	9:14		TIE shoe out
0.5	800	344	363.0	9:16		pump to 800 ps.
0.5	140	566	363.0	9:17		TIE-I
0.5	140	346	363.0	9:17		start pumping
1	300	395	363.0	9:18		1L
2	360	462	363.1	9:19		2L
3	360	486	363.1	9:20		3L
4	360	493	363.2	9:21		4L
5	360	491	363.2	9:22		5L
6	360	494	364.1	9:24		6L
7	360	502	365.8	9:25		7L
7	200	479	363.5	9:25		stop pump / refill reservoir
7	200	464	363.2	9:27		start pump
7.75	320	505	370	9:28		squeeze vent open
8	340	514	366.1	9:29		8L
9	360	533	367.6	9:30		9L
10	600	556	369.3	9:31		10L
11	600	580	372.0	9:32		11L
12	960	636	381	9:34		12
12.5	520	707				pump off / TIE O
12.5	380	661	393	9:35		squeeze vent off

Westbay Instruments Inc.

MP55 Packer Inflation Field Record

Project:_____ Client:_____	By:_____ Date:_____
Location:_____ Well No._____	Borehole Diameter:_____
Packer No. 17 Depth:_____	Computer Data File:_____.WDF
Inf-Tool No._____ Vent Tool No._____	Volume Pumped:_____ Vol Returned_____
H-B Valve: (P_H) _____ Offset (P_V). _____	Confirm Venting (Vent Tool Data) (Y/N) _____
Vent Tool Pressure (Shoe Out, P_O) _____	Final Inf'n Vol:_____ Final Press:_____ (P_F)
Comments:_____	Calc'd Element Pressure ($P_F + P_V - P_O$)_____
_____	Confirm Pkr Valve Closed (Yes/No): _____

Target 613-psi

Pumping Information

Software Reminder
I = Inflate, O = Off, C = Close

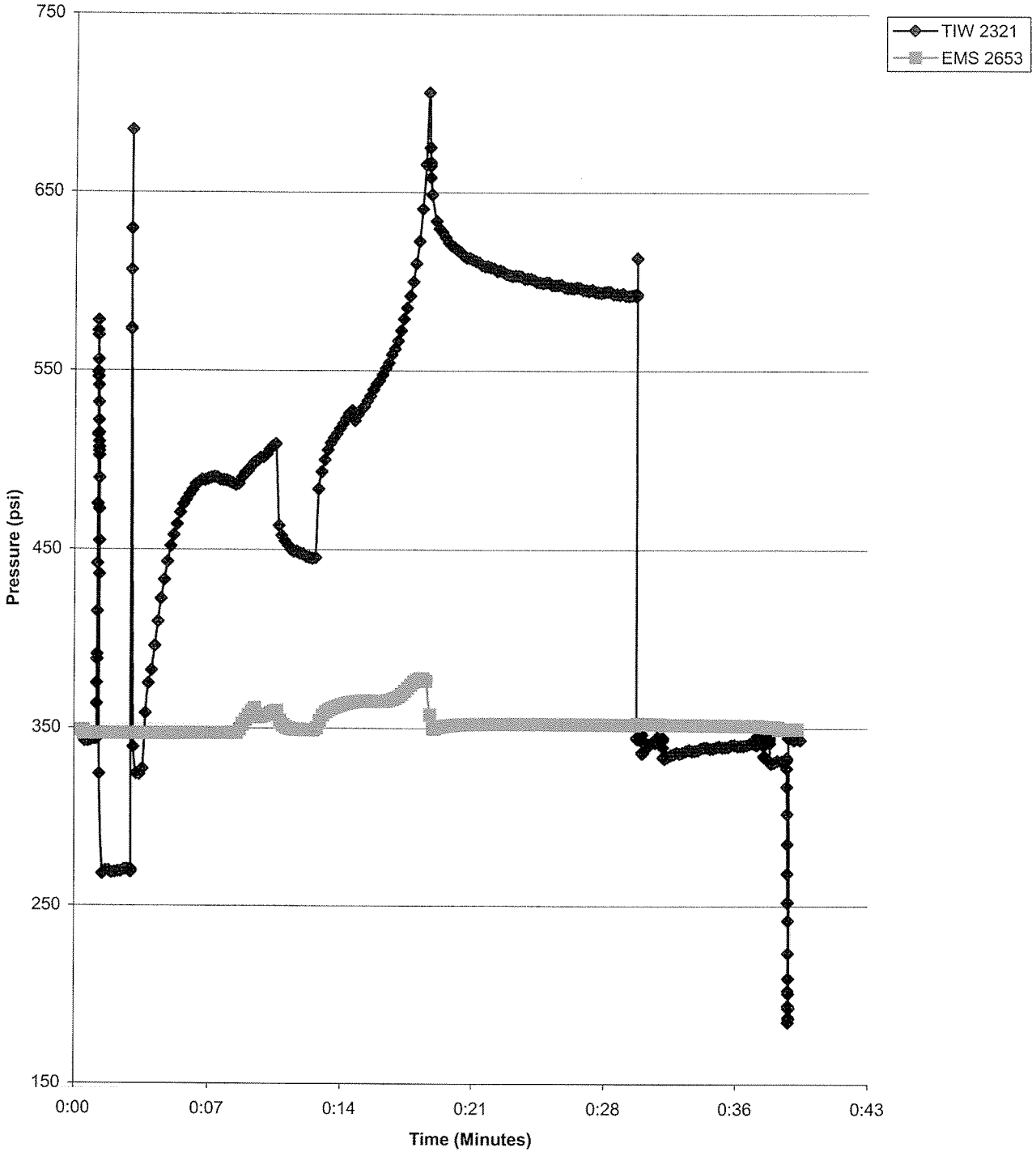
Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
-	-	-	-	9:35		10 min Q/A start
12.5	380	625	392.9	9:37		
12.5	380	611	390.2	9:41		
		603	387.7	9:45		
12.75	800	602	387.3	9:45		Pump to 800psi
	760	358	387	9:46		TIE -C
1225	0	648	387.2	9:46		vent Inc / TIE-O
		644	386.3	9:48		5min Q/A
		640	384.7	9:51		
		639	384.3	9:52		
		359	383.9	9:52		TIE-C water level stable
		359	383.8	9:53		TIE-I water level stable
		347	383.7	9:53		TIE-O water level stable
		351	364.5	9:54		EMS shoe in
		358	364.5	9:5		TIE shoe in
						stop logging / save

 358 363

MP 55 Packer Inflation Record

Company: Westbay Instruments Inc.
Site: Bruce Power
Description: Packer 18
Well:DGR-01
WB: 860
Comment:

Packer: 0612-577
Packer Depth:229.6m



Plot By:_____

WB860 Packer 18 0612-577.xls

10/19/2007

Westbay Instruments Inc.

MP55 Packer Inflation Field Record

Project: _____ Client: _____	By: _____ Date: _____
Location: _____ Well No. _____	Borehole Diameter: _____
Packer No. 18 Depth: _____	Computer Data File: _____.WDF
Inf-Tool No. _____ Vent Tool No. _____	Volume Pumped: _____ Vol Returned _____
H-B Valve: (P_H) _____ Offset (P_V). _____	Confirm Venting (Vent Tool Data) (Y/N) _____
Vent Tool Pressure (Shoe Out, P_O) _____	Final Inf'n Vol: _____ Final Press: _____ (P_F)
Comments: _____ Pump to 700 psi	Calc'd Element Pressure ($P_F + P_V - P_O$) _____
	Confirm Pkr Valve Closed (Yes/No): _____

347 + 250 = 597 psi.

Pumping Information

Software Reminder
I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
0	0	343	348.9	10:02		Landed/start logging
0	0	343	347.1	10:03		EMS shoe out
0	0	576	347.1	10:04		TIE shoe out
0.3	800	270	347.1	10:05		Pump to 800 psi
0.3	50	606	347.1	10:05		TIE - I
0.3	50	324	347.1	10:05		Start pumping
1	150	398	347.1	10:06		1L
2	250	459	347.2	10:07		2L
3	280	486	347.3	10:08		3L
4	280	490	347.3	10:09		4L
5	280	487	347.4	10:11		5L
			359			Squeeze vent open
6	300	498	356.2	10:12		6L
7	300	510	359.2	10:13		7L
—	—	—	—	10:13		Stop pump/refill reservoir
7	800	446.2	364.1	10:15		restart pump
8	280	516	362.7	10:16		8L
9	300	527	365.1	10:17		9L
10	320	548	365.1	10:19		10L
11	360	579	370.9	10:20		11L
12	400	671	377.6	10:21		12L
12.1	~~460~~	706				pump off/TIE - O
12.1	360	612	350.4	10:22		Squeeze vent off
—	—	—	—	10:22		10 min d/f start

Westbay Instruments Inc.

MP55 Packer Inflation Field Record

Project:_____ Client: _____	By:_____ Date:_____
Location:_____ Well No._____	Borehole Diameter:_____
Packer No. 18 Depth:_____	Computer Data File:_____.WDF
Inf-Tool No._____ Vent Tool No._____	Volume Pumped:_____ Vol Returned_____
H-B Valve: (P_H) _____ Offset (P_V). _____	Confirm Venting (Vent Tool Data) (Y/N) _____
Vent Tool Pressure (Shoe Out, P_O) _____	Final Inf'n Vol:_____ Final Press:_____ (P_F)
Comments:_____	Calc'd Element Pressure ($P_F + P_V - P_O$)_____
_____	Confirm Pkr Valve Closed (Yes/No): _____

target 593. ps:

Pumping Information

Software Reminder
I = Inflate, O = Off, C = Close

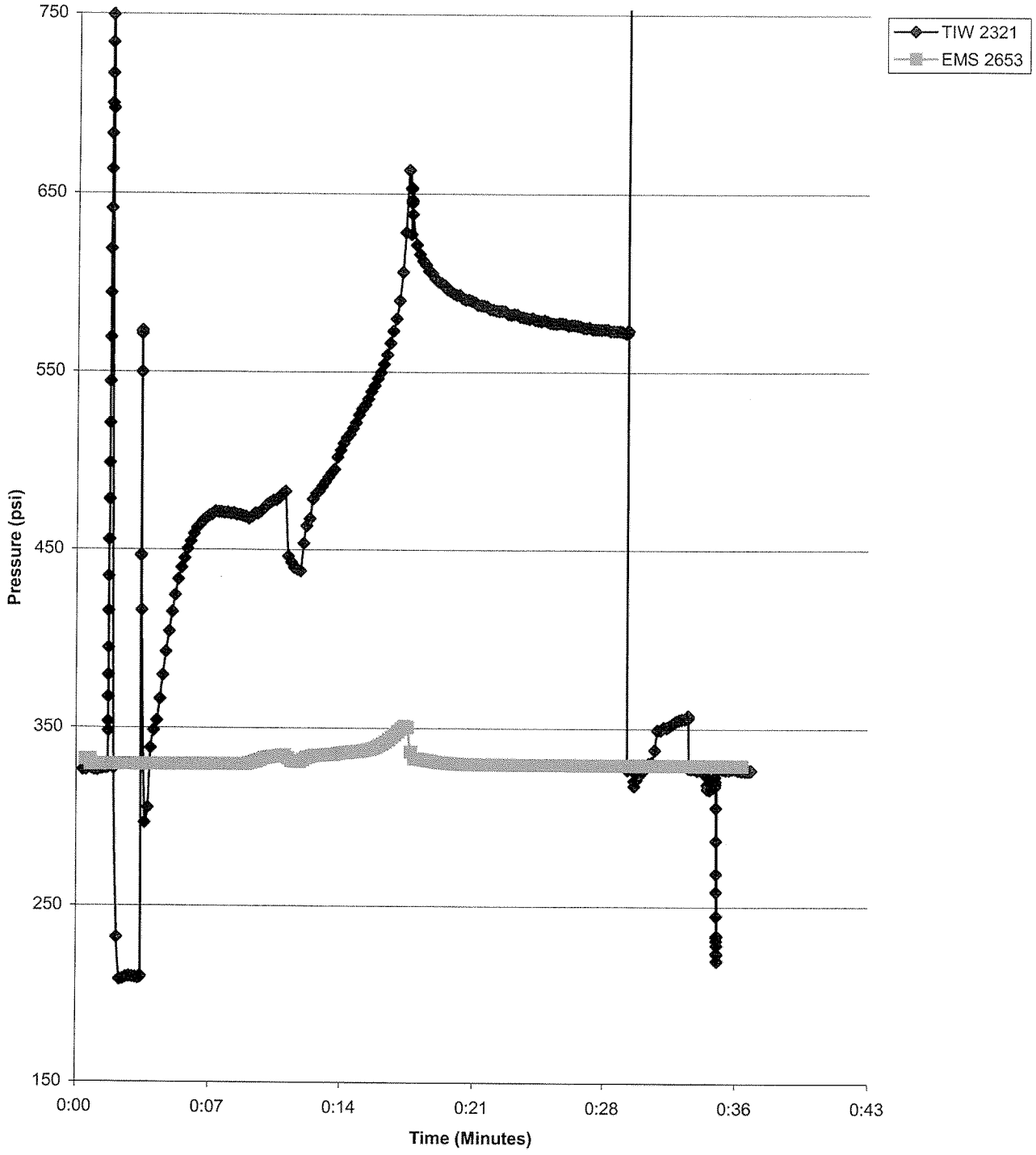
Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
12.1	340	610	352.3	10:24		+2 min
		600	352.4	10:28		
		593	352.0	10:32		
12.25	800	593	351.9	10:32		Pump to 800 psi
		613	352	10:32		TIE-C
12.0	0	339	352.5	10:33		Vent line / TIE-O
		343	352	10:34		TIE-C
		334	352.1	10:34		TIE-O
		339	351.7	10:37		5 min O/A
		341	351.5	10:39		
		344	351	10:39		TIE-C water level stable
		344	351	10:40		TIE-I " " "
		331	351	10:40		TIE-O
		332	349.6	10:41		EMS shoe in
		344	349.6	10:41		TIE shoe in
						water level stable
						Stop logging / save

343 349

MP 55 Packer Inflation Record

Company: Westbay Instruments Inc.
Site: Bruce Power
Description: Packer 19
Well:DGR-01
WB: 860
Comment:

Packer: 0612-568
Packer Depth:218.0m



WB860 Packer 19 0612-568.xls

Plot By:_____
10/19/2007

Westbay Instruments Inc.

MP55 Packer Inflation Field Record

Project:_____ Client: _____	By:_____ Date:_____
Location:_____ Well No._____	Borehole Diameter:_____
Packer No. 19 Depth:_____	Computer Data File:_____.WDF
Inf-Tool No._____ Vent Tool No._____	Volume Pumped:_____ Vol Returned_____
H-B Valve: (P_H) _____ Offset (P_V). _____	Confirm Venting (Vent Tool Data) (Y/N) _____
Vent Tool Pressure (Shoe Out, P_O) _____	Final Inf'n Vol:_____ Final Press:_____ (P_F)
Comments:_____ Pump to 680	Calc'd Element Pressure ($P_F + P_V - P_O$)_____
	Confirm Pkr Valve Closed (Yes/No): _____

330+250 = 580

Pumping Information

Software Reminder
I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
0	0	327	332.4	10:44		Landed/start logging
0	0	327	329.7	10:45		EMS shoe out
		793	329.7	10:46		TIE shoe out
0.2	800	240	329.7	10:47		pump to 800 psi
0.2	50	549	329.6	10:48		TIE-I
0.2	50	—	329.7	10:49		start pumping
1	160	385	329.7	10:49		1C
2	240	443	329.8	10:50		2C
3	280	467	"	10:51		3C
4	"	472	"	10:52		4C
5	"	467	"	10:54		5C
5.6	"		332			Squeeze vent open
6	"	474	333.5	10:55		6C
7	"	483	334.7	10:56		7C
7	280	[illegible]	334.8	10:57		Stop pump/refill reservoir
7	200	438	331.3	10:57		start pump
8	280	491	335.3	10:58		8C
9	320	515	336.6	10:59		9C
10	340	537	338.3	11:00		10C
11	370	570	340.9	11:01		11C
11.8	460	682	340.7	11:02		pump off / TIE-O
11.8	340	620	332.1	11:03		Squeeze vent off
—	—	—	—	11:04		10 min a/A
"	"	590	330.1	11:06		+2 min

Westbay Instruments Inc.

MP55 Packer Inflation Field Record

Project: _____ Client: _____	By: _____ Date: _____
Location: _____ Well No. _____	Borehole Diameter: _____
Packer No. 19 Depth: _____	Computer Data File: _____.WDF
Inf-Tool No. _____ Vent Tool No. _____	Volume Pumped: _____ Vol Returned _____
H-B Valve: (P_H) _____ Offset (P_V). _____	Confirm Venting (Vent Tool Data) (Y/N) _____
Vent Tool Pressure (Shoe Out, P_O) _____	Final Inf'n Vol: _____ Final Press: _____ (P_F)
Comments: _____	Calc'd Element Pressure ($P_F + P_V - P_O$) _____
_____	Confirm Pkr Valve Closed (Yes/No): _____

Target 580 psi **Pumping Information**

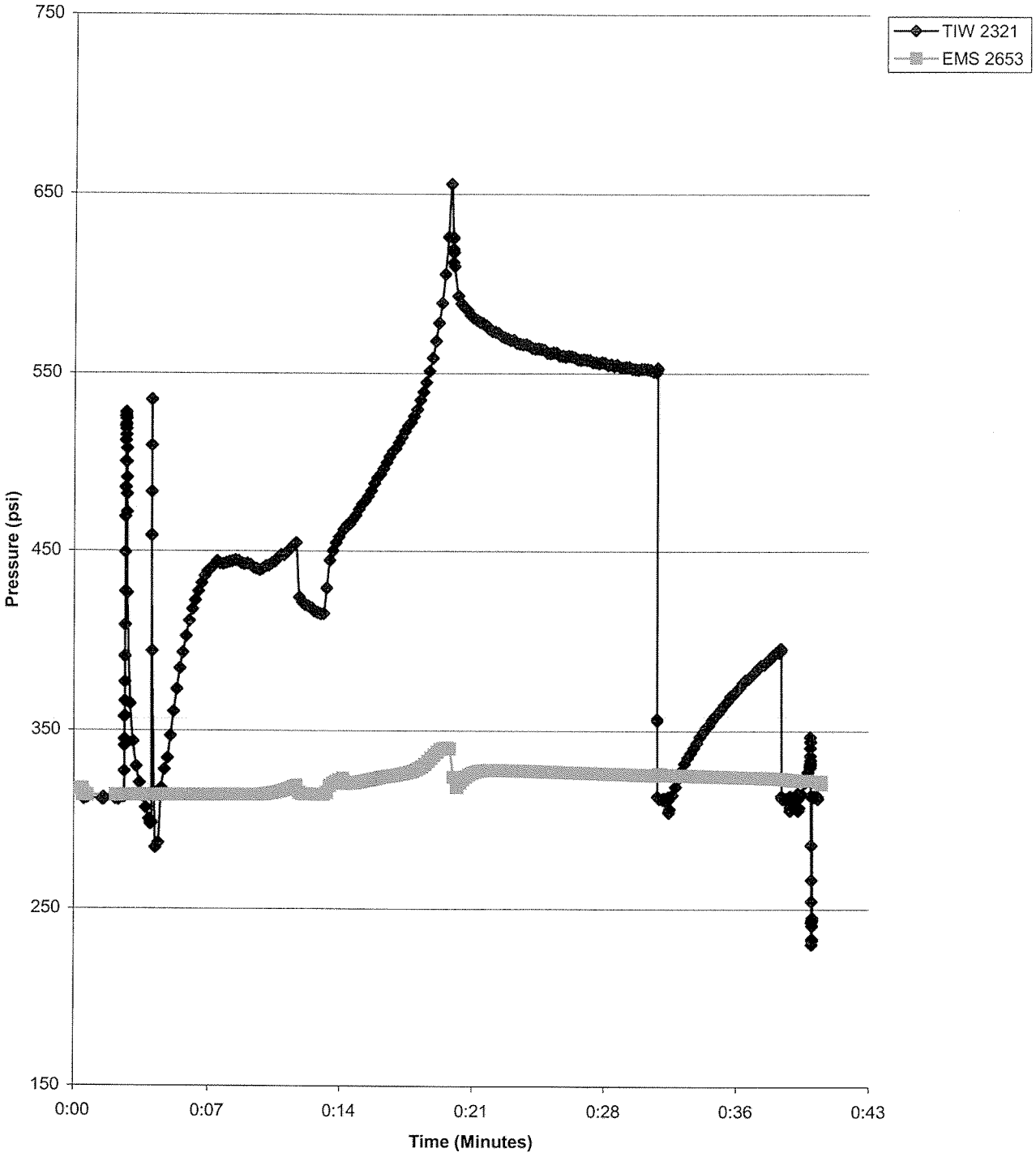
Software Reminder
I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
	"	578	329.7	11:10		
	"	573	329.6	11:14		
12.0	800	572	329.6	11:14		Pump to 800 psi
	760	328	"			TIE-C
11.75	0	320	"	11:15		Vent line / TIE-O
—	—	—	—	11:15		5 min d/f start
		351	"	11:17		
		355	"	11:18		
		327	"	"		TIE-C water level slowly rising
		316	"	11:19		TIE-O
		328	"	11:20		TIE shoe in
		328	"	11:23		TIE-C / shoe out
		317	"	11:24		TIE-O water level stable
		326	"	11:29		5 min d/f start 11:25
		328	"	11:30		
		329	333.1	11:31		EMS shoe in
		328	333.1	11:31		TIE shoe in
				11:32		water level stable
						stop logging / save

MP 55 Packer Inflation Record

Company: Westbay Instruments Inc.
Site: Bruce Power
Description: Packer 20
Well:DGR-01
WB: 860
Comment:

Packer: 0612-575
Packer Depth:207.5m



Plot By:_____

WB860 Packer 20 0612-575.xls

10/19/2007

Westbay Instruments Inc.

MP55 Packer Inflation Field Record

Project:_____ Client: _____	By:_____ Date:_____
Location:_____ Well No._____	Borehole Diameter:_____
Packer No. 20 Depth:_____	Computer Data File:_____.WDF
Inf-Tool No._____ Vent Tool No._____	Volume Pumped:_____ Vol Returned_____
H-B Valve: (P_H) _____ Offset (P_V). _____	Confirm Venting (Vent Tool Data) (Y/N) _____
Vent Tool Pressure (Shoe Out, P_O) _____	Final Inf'n Vol:_____ Final Press:_____ (P_F)
Comments:_____ Pump to 665 psi	Calc'd Element Pressure ($P_F + P_V - P_O$)_____ Confirm Pkr Valve Closed (Yes/No): _____

314 + 250 = 564

Pumping Information

Software Reminder
I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
0	0	312	317.5	11:37		Landed / start logging
"	"	312	313.9	11:37		EMS shoe out
"	"	525	314.0	11:39		TIE shoe out
0.25	800	318	314.0	11:41		pump to 800 psi
"	50	683	"	11:41		TIE-I
"	50	300	313.9	11:41		pump
1	160	356	"	11:42		1C
2	240	417	"	11:43		2C
3	260	441	"	11:44		3C
4	280	445	"	11:45		4C
5	"	442	"	11:46		5C
6	"	444	315.1	11:47		6C
7	"	454	318.5	11:49		7C
						stop pump / read
7	180	415	314.3	11:50		start pump
7.7	280	461	323	11:51		squeeze vent open
8	"	465	320.6	11:52		8C
9	300	483	322.5	11:53		9C
10	320	504	324.7	11:54		10C
11	340	526	327.4	11:55		11C
12	380	566	331.6	11:56		12C
12.7	440	648	318	11:57		pump off / TIE-O
12.7	340	541	321.6	11:57		bypass squeeze vent off
-	-	-	-	11:58		10 min q/A start

Westbay Instruments Inc.

MP55 Packer Inflation Field Record

Project:_____ Client: _____	By:_____ Date:_____
Location:_____ Well No._____	Borehole Diameter:_____
Packer No. 20 Depth:_____	Computer Data File:_____.WDF
Inf-Tool No._____ Vent Tool No._____	Volume Pumped:_____ Vol Returned_____
H-B Valve: (P_H) _____ Offset (P_V). _____	Confirm Venting (Vent Tool Data) (Y/N) _____
Vent Tool Pressure (Shoe Out, P_O) _____	Final Inf'n Vol:_____ Final Press:_____ (P_F)
Comments:_____	Calc'd Element Pressure ($P_F + P_V - P_O$)_____
_____	Confirm Pkr Valve Closed (Yes/No): _____

Target 564 psi

Pumping Information

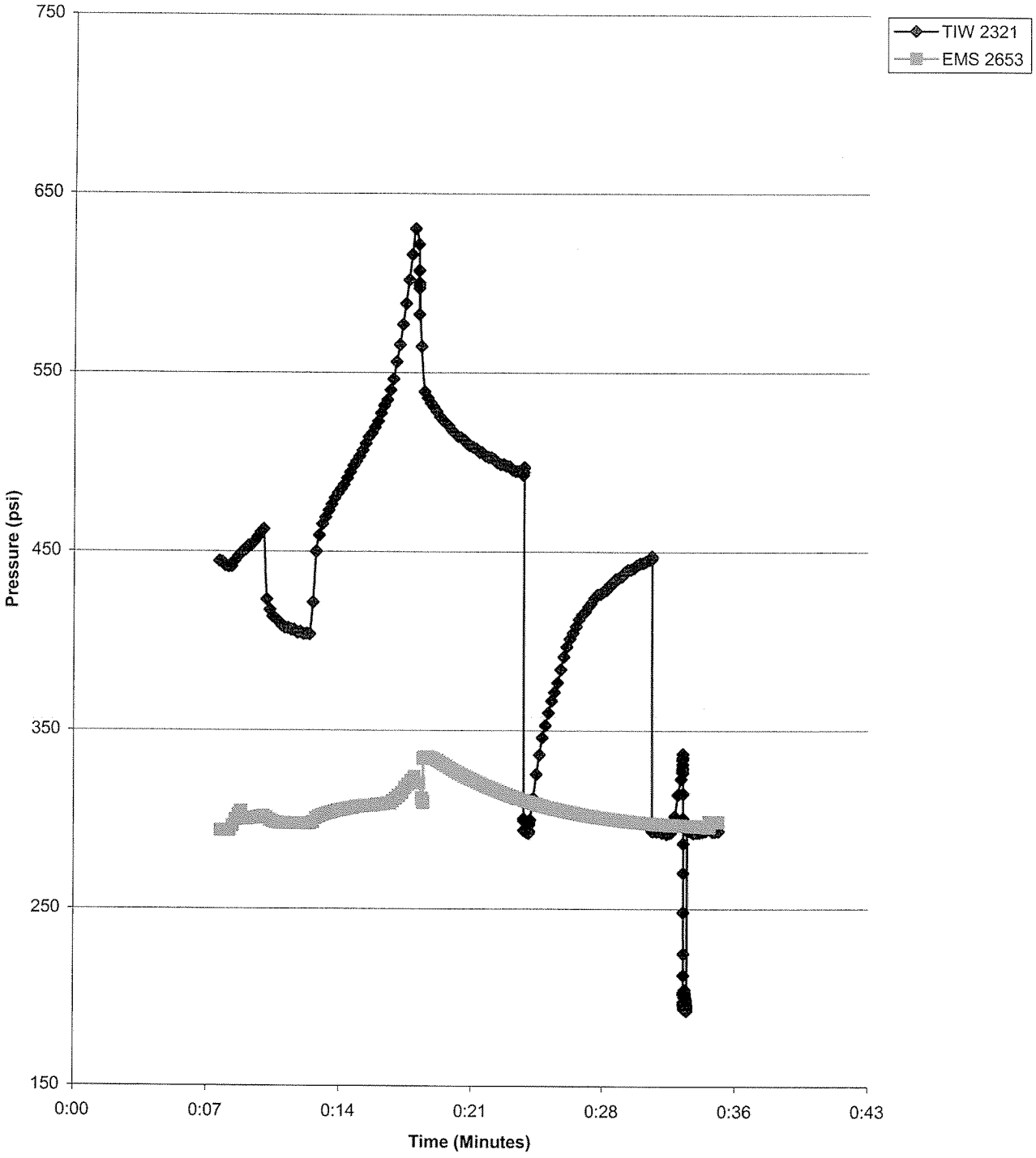
Software Reminder
I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
12.7	340	571	328.0	12:00		
"	"	559	326.7	12:04		
"	"	552	325.5	12:08		
12.8	800	551	325.3	12:08		pump to 800 psi
"	760	313	326.0	12:09		TIE-C
12.6	0	308	325.4	12:09		vent line / TIE-O
—	—	—	—	12:10		5 min @/A start 12:10
"	"	359	324.6	12:12		
"	"	391	323.6	12:15		
		313	323.2	12:15		TIE-C water level stable
		312	322.7	12:16		TIE-I " " "
		312	322.5	12:16		
		313	321.8	12:17		TIE-shoe in
		313	318.1	12:18		EMS-shoe in
						stop logging / save data

MP 55 Packer Inflation Record

Company: Westbay Instruments Inc.
Site: Bruce Power
Description: Packer 21
Well:DGR-01
WB: 860
Comment:

Packer: 0612-582
Packer Depth:193.9m



Plot By:_____

WB860 Packer 21 0612-582.xls

10/18/2007

Westbay Instruments Inc.

MP55 Packer Inflation Field Record

Project:_____ Client: _____	By:_____ Date:_____
Location:_____ Well No._____	Borehole Diameter:_____
Packer No. 21 Depth:_____	Computer Data File:_____.WDF
Inf-Tool No._____ Vent Tool No._____	Volume Pumped:_____ Vol Returned_____
H-B Valve: (P_H) _____ Offset (P_V). _____	Confirm Venting (Vent Tool Data) (Y/N) _____
Vent Tool Pressure (Shoe Out, P_O) _____	Final Inf'n Vol:_____ Final Press:_____ (P_F)
Comments:_____ Pump to 645 psi	Calc'd Element Pressure ($P_F + P_V - P_O$)_____ Confirm Pkr Valve Closed (Yes/No): _____

294 + 250 = 544 psi

Pumping Information

Software Reminder
I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
0	0	293	298.0	12:23		Landed / start logging
0	0	292	293.7	12:24		Ems shoe out
0	0	747	293.6	12:25		TIE shoe out
0.25	300	329	"	"		Pump to 300 psi
"	50	296	"			TIE-I
4	"	257	"	12:26		Start pumping
1	220	349	"	12:26		1L
2	300	422	"	12:27		2L
3	300	466	"	12:29		3L
4	"	445	293.9	12:30		4L
5	"	442	"	12:31		5L
	"	450	300	12:32		Squeeze valve open
6	"	455	"	"		6
7	320	462	302.1	12:33		7L
—	—	—	—	12:33		Stop pump / refill reservoir
7	300	404	297.8	12:35		restart pump
8	340	477	304.7	12:37		8L
9	360	486	306.5	12:38		9L
10	380	519	308.3	12:39		10L
11	420	548	310.9	12:40		11L
12.1	480	641	325.3	12:41		stop pump / TIE-O
"	[illegible]	552	335.1	12:42		Squeeze valve off
"	340	520	329.1	12:43		10 min @/A start
"	"	505	319.8	12:45		+2 min

Westbay Instruments Inc.

MP55 Packer Inflation Field Record

Project:_____ Client: _____	By:_____ Date:_____
Location:_____ Well No._____	Borehole Diameter:_____
Packer No. 21 Depth:_____	Computer Data File:_____.WDF
Inf-Tool No._____ Vent Tool No._____	Volume Pumped:_____ Vol Returned_____
H-B Valve: (P_H) _____ Offset (P_V). _____	Confirm Venting (Vent Tool Data) (Y/N) _____
Vent Tool Pressure (Shoe Out, P_O) _____	Final Inf'n Vol:_____ Final Press:_____ (P_F)
Comments:_____	Calc'd Element Pressure ($P_F + P_V - P_O$)_____
_____	Confirm Pkr Valve Closed (Yes/No): _____

Pumping Information

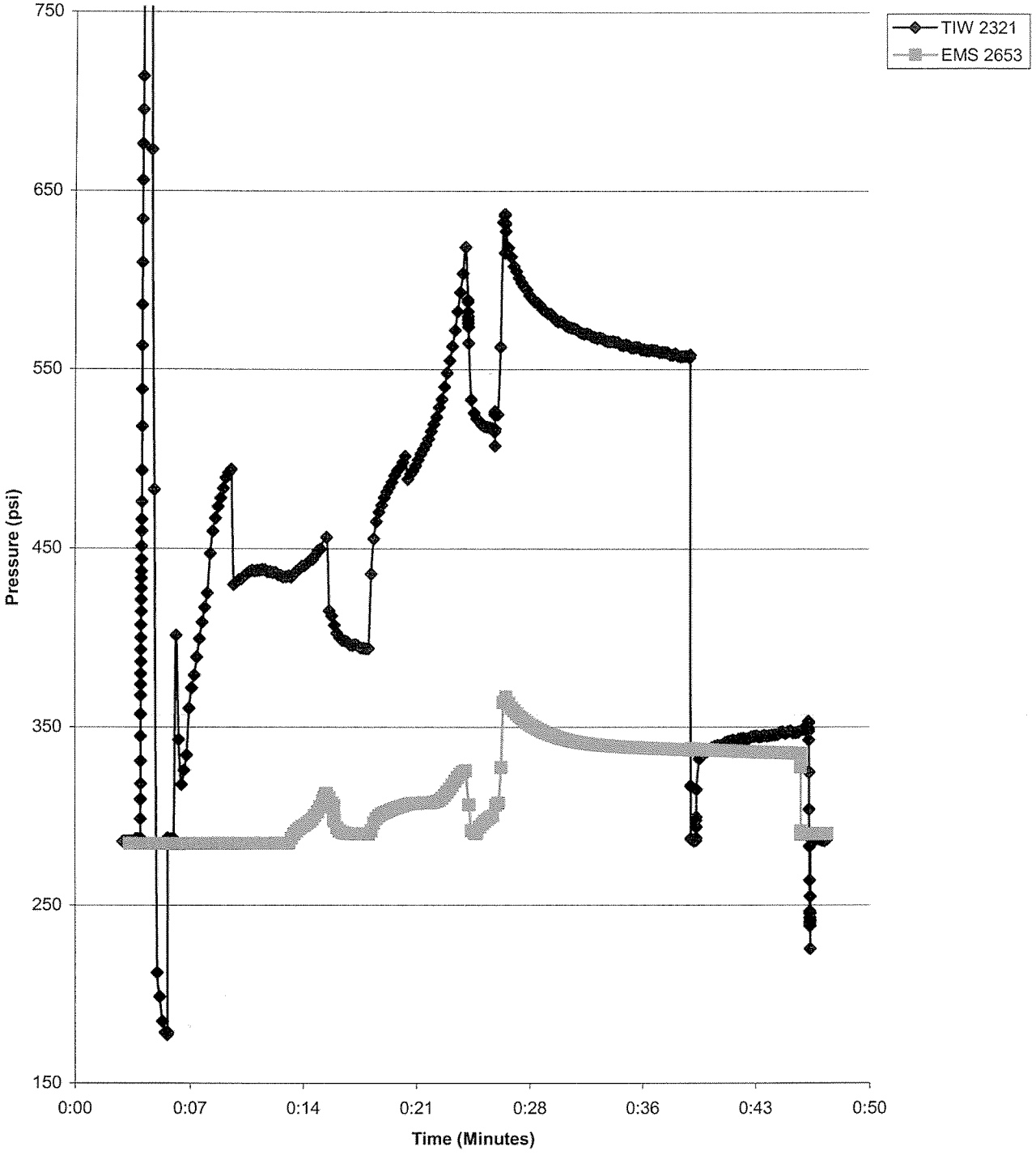
Software Reminder
I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
12.25	800	444	311.5	12:47		pump to 800 psi
12.25	780	893	310.4	"		TIE-C
12.0	0	321	308.6	12:48		vent line / TIE-O
"	"	403	303.8	12:50		5 min O/L 12:48
"	"	445	298.2	12:54		
		293	297.7	12:55		TIE-C water level stable
		293	297.4	12:55		TIE-I " " "
		296	296.9	12:55		TIE-O
		294	"	12:56		TIE shoe in water level is stable
		294	298.8	12:57		EMS shoe in
						stop logging / save

MP 55 Packer Inflation Record

Company: Westbay Instruments Inc.
Site: Bruce Power
Description: Packer 22
Well:DGR-01
WB: 860
Comment:

Packer: 0612-581
Packer Depth:189.4m



Plot By:_____

WB860 Packer 22 0612-581.xls

10/18/2007

Westbay Instruments Inc.

MP55 Packer Inflation Field Record

Project:_____ Client: _____	By:_____ Date:_____
Location:_____ Well No._____	Borehole Diameter:_____
Packer No. 22 Depth:_____	Computer Data File:_____.WDF
Inf-Tool No._____ Vent Tool No._____	Volume Pumped:_____ Vol Returned_____
H-B Valve: (P_H) _____ Offset (P_V). _____	Confirm Venting (Vent Tool Data) (Y/N) _____
Vent Tool Pressure (Shoe Out, P_O) _____	Final Inf'n Vol:_____ Final Press:_____ (P_F)
Comments:_____ Pump to 635 psi	Calc'd Element Pressure ($P_F + P_V - P_O$)_____ Confirm Pkr Valve Closed (Yes/No): _____

285+250 = 535

Pumping Information

Software Reminder
I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
0	0	287	280.1	3:28		Landed/start recording
		282	345	3:29		EMS shoe out
		282	289.8	3:30		EMS shoe in
		287	284.8			EMS shoe at
		946	284.8	3:33		TIE shoe out - shale dropped sharply.
		178	"	3:34		TIE - F
0	0		"	3:35		Start pumping - valve opened
1	200	395	284.9	3:36		1L
2	300	478	"	3:37		2L
3	360	433	"	3:39		3L
4	300	438	"	3:40		4L
5	"	435	"			5L
		441	298	~~348~~		Try opening squeeze vent - won't open
6	300	448	302			6L
7	300	456	313	3:44		7L
7	200	401	291.7	3:45		Stop pump/open squeeze vent
7	150	395	290.2	3:46		Start pump
8	360	486	303.6	3:48		8L
9	4	498	307.0	3:49		9L
10	380	506	307.6	3:50		10L
11	400	536	311.2	3:51		11L
1225	460	583				12L ~~pump~~ Pump off / TIE →
1225	320	629	294.1	3:54		Squeeze vent closed

Westbay Instruments Inc.

MP55 Packer Inflation Field Record

Project:_____ Client: _____	By:_____ Date:_____
Location:_____ Well No._____	Borehole Diameter:_____
Packer No._____ Depth:_____	Computer Data File:_____.WDF
Inf-Tool No._____ Vent Tool No._____	Volume Pumped:_____ Vol Returned_____
H-B Valve: (P_H) _____ Offset (P_V). _____	Confirm Venting (Vent Tool Data) (Y/N) _____
Vent Tool Pressure (Shoe Out, P_O) _____	Final Inf'n Vol:_____ Final Press:_____ (P_F)
Comments:_____ Pump to ~635 psi	Calc'd Element Pressure ($P_F + P_V - P_O$)_____ Confirm Pkr Valve Closed (Yes/No): _____

Target 535 psi

Pumping Information

Software Reminder
I = Inflate, O = Off, C = Close

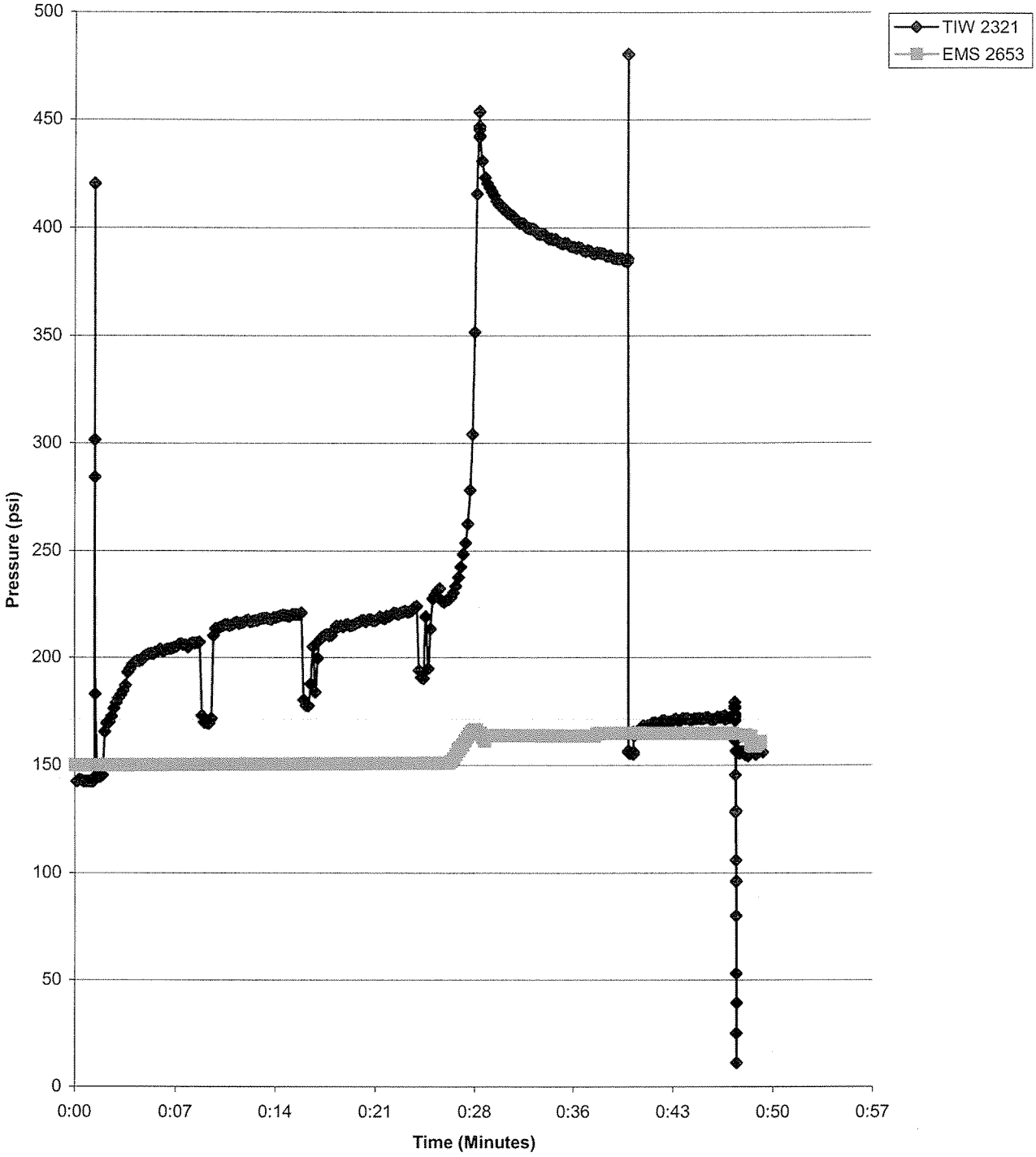
Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
12.25		526				TIE-I / pump
12.5		646				TIE-O
12.5	360	621	360.7	3:56		+10 sec
—	—	—	—	3:56		10 mm Q/A start
12.5	360	577	344.1	3:59		+3 min
"	"	566	339.7	4:02		
"	"	559	337.8	4:06		
12.6	800	557	337.9	4:07		pump to 800 psi
"	760	287	"	4:07		TIE - Close
12.3	0	299	337.7	4:09		vent line / TIE-OFF
—	-	-	-	4:09		5 mm Q/A start
"	"	344	336.3	4:11		
"	"	346	335.7	4:13		
"	"	347	335.4	4:14		
"	"	349	290.2	4:14		End shoe in
"	"	287	290.2	4:15		TIE shoe in
						water level is stable
				4:16		stop logging / save data

287 290

MP 55 Packer Inflation Record

Company: Westbay Instruments Inc.
Site: Bruce Power
Description: Packer 23
Well:DGR-01
WB: 860
Comment:

Packer: 0618-050
Packer Depth:97.4m



Plot By:_____

WB860 Packer 23 0618-050.xls

10/18/2007

Westbay Instruments Inc.

MP55 Packer Inflation Field Record

Project: _____ Client: _____	By: _____ Date: Sept 24-25/07
Location: _____ Well No. _____	Borehole Diameter: _____
Packer No. 23 Depth: _____	Computer Data File: _____.WDF
Inf-Tool No. _____ Vent Tool No. _____	Volume Pumped: _____ Vol Returned _____
H-B Valve: (P_H) _____ Offset (P_V). _____	Confirm Venting (Vent Tool Data) (Y/N) _____
Vent Tool Pressure (Shoe Out, P_O) _____	Final Inf'n Vol: _____ Final Press: _____ (P_F)
Comments: 460 Pump to 500 psi.	Calc'd Element Pressure ($P_F + P_V - P_O$) _____
	Confirm Pkr Valve Closed (Yes/No): _____

150+250 = 400

Pumping Information

Software Reminder
I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
0	0	150	154.5	4:47		Landed / start logging
0	0	151	150.1	4:47		Ems shoe out
0	0	182	150.1	4:48		TIE shoe out
0	0	143	150.1	4:49		+1 min
		143	150.1	4:50		+2 min
0	0	143	150.1	8:24 am		start recording
0.15	500	143	150.1	8:25		pump to 500 psi
"	50	284	150.1	8:26		TIE-I
"	150	168	"	"		start pumping
1	130	180	"	8:27		1L
2	240	196	"	8:28		2L
3	"	200	"	8:29		3L
4	"	203	"	8:30		4L
5	260	204	"	8:31		5L
6	270	206	"	8:32		6L
7	"	207	150.4	8:33		7L
7	50	172	"	"		stop pump/ref. reservoir
7	80	170	"	8:34		start pump
8	300	215	"	8:35		8L
9	"	216	"	8:36		9L
10	"	218	"	"		10L
11	320	218	"	8:37		11L
12	"	218	"	8:38		12L
13	340	219	150.6	8:39		13L

Sept 24/07
Sept 25/07

Westbay Instruments Inc.

MP55 Packer Inflation Field Record

Project:_____ Client:_____	By:_____ Date:_____
Location:_____ Well No._____	Borehole Diameter:_____
Packer No. 23 Depth:_____	Computer Data File:_____.WDF
Inf-Tool No._____ Vent Tool No._____	Volume Pumped:_____ Vol Returned_____
H-B Valve: (P_H) _____ Offset (P_V). _____	Confirm Venting (Vent Tool Data) (Y/N) _____
Vent Tool Pressure (Shoe Out, P_O) _____	Final Inf'n Vol:_____ Final Press:_____ (P_F)
Comments:_____	Calc'd Element Pressure ($P_F + P_V - P_O$)_____
_____	Confirm Pkr Valve Closed (Yes/No): _____

Pump to 460
Target 400 (380-420)

Pumping Information

Software Reminder
I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
14	340	221	150.6	8:40		14L
14	50	178	"	"		stop pump
14	50	178	"	8:41		start pump
14.1	–	210	"	8:41		Note Air lock in pump / stop, start pump
15	300	210	"	8:42		15L
16	320	214	"	8:43		16L
17	"	216	"	8:44		17L
18	"	217	150.8	8:45		18L
19	360	220	"	8:46		19L
20	"	221	"	8:48		20L
21	380	223	"	8:49		21L
21	140	187	"	"		stop pump / refill reservoir
"	"	190	"	"		start pump
21.25	"	231	157.0	8:50		Air lock - start / stop pump
22	400	231	151.0	"		22L - lower pump speed
23	420	234	155.5			23L
23.25	"	242	157	8:52		Squeeze vent open
24	460	282	165	8:52		24
24.5		454	162			stop pump / RIC-0
24.5	405	426	164	8:54		Squeeze vent off
—	—	—	—	8:54		10 min a/A start
24.5	360	404	163.6	8:56		+2 min - pump to 600psi
24.6	600	394	"	8:59		+5 min
"	"	390	"	9:01		+7 min

Westbay Instruments Inc.

MP55 Packer Inflation Field Record

Project:_____ Client: _____	By:_____ Date:_____
Location:_____ Well No._____	Borehole Diameter:_____
Packer No. 23 Depth:_____	Computer Data File:_____.WDF
Inf-Tool No._____ Vent Tool No._____	Volume Pumped:_____ Vol Returned_____
H-B Valve: (P_H) _____ Offset (P_V). _____	Confirm Venting (Vent Tool Data) (Y/N) _____
Vent Tool Pressure (Shoe Out, P_O) _____	Final Inf'n Vol:_____ Final Press:_____ (P_F)
Comments:_____	Calc'd Element Pressure ($P_F + P_V - P_O$)_____
_____	Confirm Pkr Valve Closed (Yes/No): _____

Software Reminder

I = Inflate, O = Off, C = Close

Pumping Information

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
24.6	600	385	164.8	9:04		
24.6	530	156	164.8			TIE-C
24.4	0	165	164.9	9:05		vent line / TIE-O
—	—	—	—	9:05		5 min Q/A start
24.4	0	170	164.8	9:07		
"	"	172	"	9:10		
"	"	171	165	9:11		EMS shoe in - Rot 1
"	"	156	164	9:12		TIE Home
"	"	156	161.8	9:13		EMS Home
						Water level stable
"	"	156	161.2	9:14		Stop logging / save data

 150 154.5

APPENDIX C

Westbay Casing Completion Report – DGR-2

stbay Instruments Inc.
3480 Gilmore Way, Suite 110
Burnaby, BC V5G 4Y1
Canada
Tel. (604) 430-4272
Fax (604) 430-3538

COMPLETION REPORT

Monitoring Well

DGR-02

OPG

Deep Geologic Repository Investigation

Ontario, Canada

Prepared for:

Intera Engineering Ltd.
Canada

Prepared by:

Westbay Instruments Inc.
WB860
January 16, 2008

CONTENTS

Appendix :

Monitoring Well DGR-02

1. Introduction

This report and the attached Appendix document the technical services carried out by Schlumberger Water Services (SWS). under Intera Engineering Ltd. Purchase Order 06-219.30.30.05C. The Westbay MP System for groundwater monitoring was installed in an open borehole at the OPG Deep Geologic Repository Investigation Underground Research Center near Tiverton, Ontario.

2. Personnel

SWS representative Mr. Andrew Bessant was on-site to assist with the installation activities from November 18 to December 13, 2007. Mr. Dave Larssen of SWS was also on-site at no charge to the project to kick off the installation. Intera Engineering Ltd. representatives were on-site to supervise the field activities. Additional support personnel were provided by Intera Engineering Ltd. to carry out the installation work.

3. Installation

3.1 Previous Activities

According to information provided by Intera Engineering Ltd., the borehole was drilled to a depth of approximately 850 meters in low-permeability sedimentary rock. Open-hole geophysical logging and hydraulic testing with a straddle packer apparatus were carried out by Intera Engineering Ltd. and others prior to the installation. The borehole was completed with mild steel 13 3/8 inch (339mm) I.D. casing placed to approximately 183m, and a 9 5/8 inch (244mm) I.D. casing placed to 463m. A summary sketch of the borehole construction details is included in the Appendix. A summary of the construction details of the borehole based on information provided by Intera is on Table 1 below.

Table 1 – Reported Borehole Construction Details

Borehole	Drilled Depth (m)	339mm casing to (m):	244mm casing to (m):	Number of Zones
DGR-02	862	183	463	28

At the time of installation the water level in DGR-02 was above ground. The datum for all measurements was the top of the concrete drill pad.

Before deployment of the Westbay casing string, the open hole flow rate was about 20 liters/minate, and the shut-in pressure was about 200m above ground level. A bridge plug was placed at a depth of about 846m, and the openhole flow rate decreased to about 5 liters/minute. The shut-in pressure was not changed.

3.2 Preparation of Monitoring Well Design

The MP55 (0600 series) monitoring well was designed by Intera Engineering Ltd. in response to the program requirements of OPG. The proposed well design was sent to Westbay for review and a preliminary Casing Installation Log was prepared in May, 2007. In July, 2007 the expected borehole fluid pressure environment was revised based on recent open-hole packer tests. Flowing artesion conditions associated with the Cambrian formations below 843.7m depth had surface shut-in pressures on the order of 200m above ground, and openhole flow rates from 85 liters/minute. The Westbay System well design was modified to include the higher strength packers and casing of the Model 0400 Stainless Steel MP55 System for the bottom zones in the well. The preliminary Casing Installation log was revised on November 14, 2007 and approved by Intera. The Casing Installation Log was reviewed in the field with Intera and final modifications were made as required to accomedate placement of bridge plug packer at about 846m depth and design TD of 844m for the Westbay casing..

The monitoring well was configured with primary monitoring zones positioned according to the reported depths of the monitoring zones of interest. A Measurement Port coupling and associated Magnetic Location Collar were included in each of the monitoring zones to provide the capability to measure fluid pressures and collect fluid samples. The Measurement Port couplings were located below the upper packer in each zone. A Hydraulic Pumping Port coupling was included in a selected zone to provide purging and hydraulic conductivity testing capabilities.

The Bottom 3 packers were Westbay Model 0418. The remaining packers in the open borehole were Westbay Model 0612, positioned at intervals to near the bottom of the steel surface casing. The top 3 packers positioned in the 244 mm ID surface casing were Westbay Model 0618. The Measurement Ports were Westbay Model 0404 (single valve) and Model0405 and 0605 (dual valve).

Table 2 – Summary of Installed MP Components

Monitoring Well	Packers (0418 / 0612 / 0618)	Measurement Ports (0404 / 0405/ 0605)	Pumping Ports (0632)	Magnetic Collars (0408 / 0608)
DGR-02	3 / 22 / 3	2 / 1 / 25	1	3 / 25

3.3 Layout of Westbay Casing Components

The Westbay System casing components were set out in order on racks near the borehole according to the sequence indicated on the Westbay Casing Installation Log. Each casing length was numbered beginning with the lowermost as an aid in confirming the proper sequence of components. The appropriate Westbay System coupling was attached to each piece of casing. The magnetic location collars were attached 0.93m below the top of the measurement port in each of the monitoring zones.

Each casing component was visually inspected, and serial numbers for each packer, measurement port coupling and pumping port coupling were recorded in Table 5. The length of each Westbay casing section was measured by the Westbay representatives to check for gross dimensional errors and was entered into the Westbay Well Designer© computer file.

3.4 Lowering of Westbay Components

The Westbay Casing components were placed in the borehole in the sequence indicated on the Westbay Casing Installation Log (Appendix). Each casing joint was tested for a minimum of one minute at an internal pressure of 300 psi to confirm the integrity of the hydraulic seals. All MP55 stainless steel joints were torque to 100 inch lbs. A record of each successful joint test and the placement of each casing component were noted on the Westbay Casing Installation Log. Geotextile filters were placed over the Measurement Port couplings at the direction of Mr. Ken Raven.

The Westbay casing was lowered into the well by hand as buoyancy conditions allowed and by hoist. Fluorescein labeled drinking water supplied by Intera was added to the Westbay casing when necessary to overcome buoyancy, to manage the suspended loads and for the joint tests.

Lowering and other well operations were carried out during daylight hours. The borehole was allowed to flow into the wellhead sump during these activities, Overnight the well head was shut in to control the borehole flow. During lowering of the Westbay casing, the wellhead was shut in overnight by means of an inflatable seal around a temporary stainless steel section of westbay casing.

3.5 Hydraulic Integrity Testing

After the Westbay casing string was lowered into the borehole, the water level inside the casing was monitored over-night to confirm the hydraulic integrity of the casing. The data from the hydraulic integrity test is shown on the first page of the Casing Installation Log (Appendix). The data indicated that the Westbay casing was water tight.

3.6 Positioning of MP Components

After the components were lowered into the well and the hydraulic integrity of the Westbay casing had been confirmed, the Westbay casing string was positioned as shown on the Casing Installation Log. The Westbay casing string was supported in this position while packer inflation was carried out. Positioning of the Westbay casing components is based on the "nominal" lengths. The positioning calculations do not include allowances for borehole temperature or deviation effects. The attached figures titled “MOSDAX Transducer Position” provides information to correlate the position of a MOSDAX Transducer sensor to the reference position at the top of the Measurement Port. The attached figure titled “Dimensions of Packer Seals and Monitoring Zones” outlines the calculations used to determine the packer centerline depths and zone length. The Summary Casing Log, which shows the final “as-built” locations of the components in the well, is included in the Appendix.

3.7 Inflation of Westbay System Packers

The packers were inflated using Fluorescein labeled drinking water supplied by Intera. The packers were inflated in sequence beginning with the lowest. All of the packers in DGR-02 appeared to inflate successfully, with the exception of Packer 10 at a depth of 712.0m. The field operators observed that packer valve would not open from the closed position. Repeated attempts to correct this behavior were not successful. Mr. Sean Sterling decided to leave the packer as is and continue with the installation. The data for the inflation of each packer are provided on the MP Packer Inflation Records included in the Appendix.

3.8 De-Stressing of MP System Casing

Westbay's procedure for de-stressing the MP casing was used to reduce the long-term load on the upper MP components. A summary of the de-stressing activities is documented on Table 3 below.

Table 3 - Summary of De-stressing Activities

Monitoring Well	Initial Hanging Weight, (kg / lbs)	Final Clamp-off Weight, (kg / lbs)	Total Movement at surface (m).	Final Stick-up (m above datum)
DGR-02	356 / 800	223 /500	-0.77	1.67

The 'as-built' Packer and Port summary and the 'as-built' summary for all casing components are documented on Table 4 and 5 respectively in the Appendix. A sketch of the 'as-built' top of the Westbay installation is shown on the first page of the Summary Casing Log (Appendix).

4. Fluid Pressure Measurements

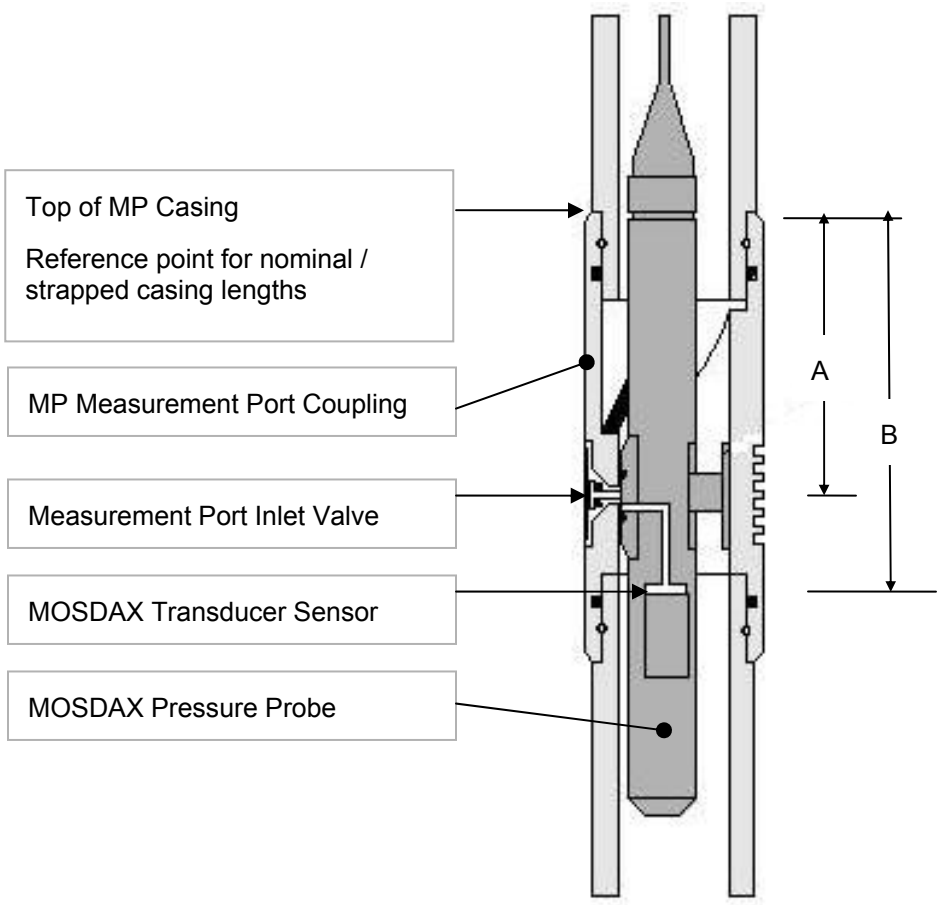
Fluid pressures were measured at each measurement port before the packers were inflated. All Measurement Ports were operated successfully. The results are given in Table 6 and Figure 1 in the Appendix. The fluid pressures were measured again following the inflation of the MP Packers. The results are given in Table 7 and Figure 2 in the Appendix.

Appendix - Monitoring Well DGR-02

Schlumberger WATER SERVICES

MOSDAX Transducer Position

In an MP System Measurement Port Coupling



System	Measurement Port Type	A	B
Stainless Steel MP55	0405	5.63" (143.0 mm)	7.63" (193.8 mm)

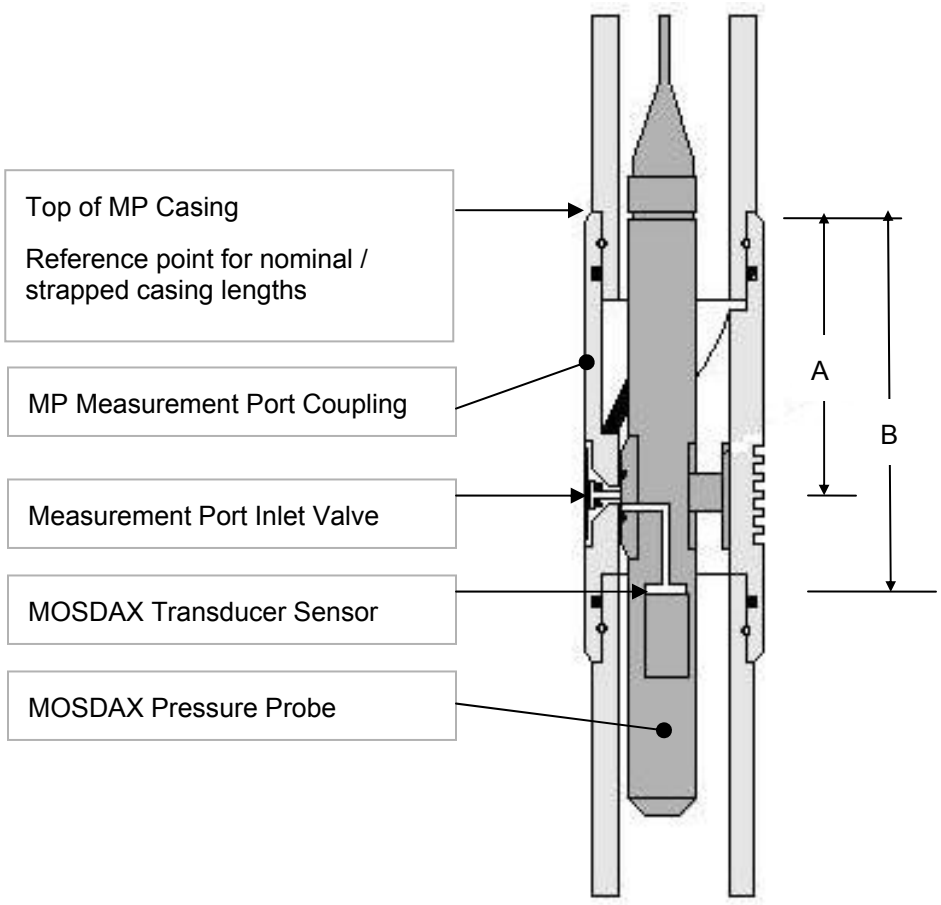
AB, Oct 21, 2007

Technical Note 21Oct07R2

Schlumberger WATER SERVICES

MOSDAX Transducer Position

In an MP System Measurement Port Coupling



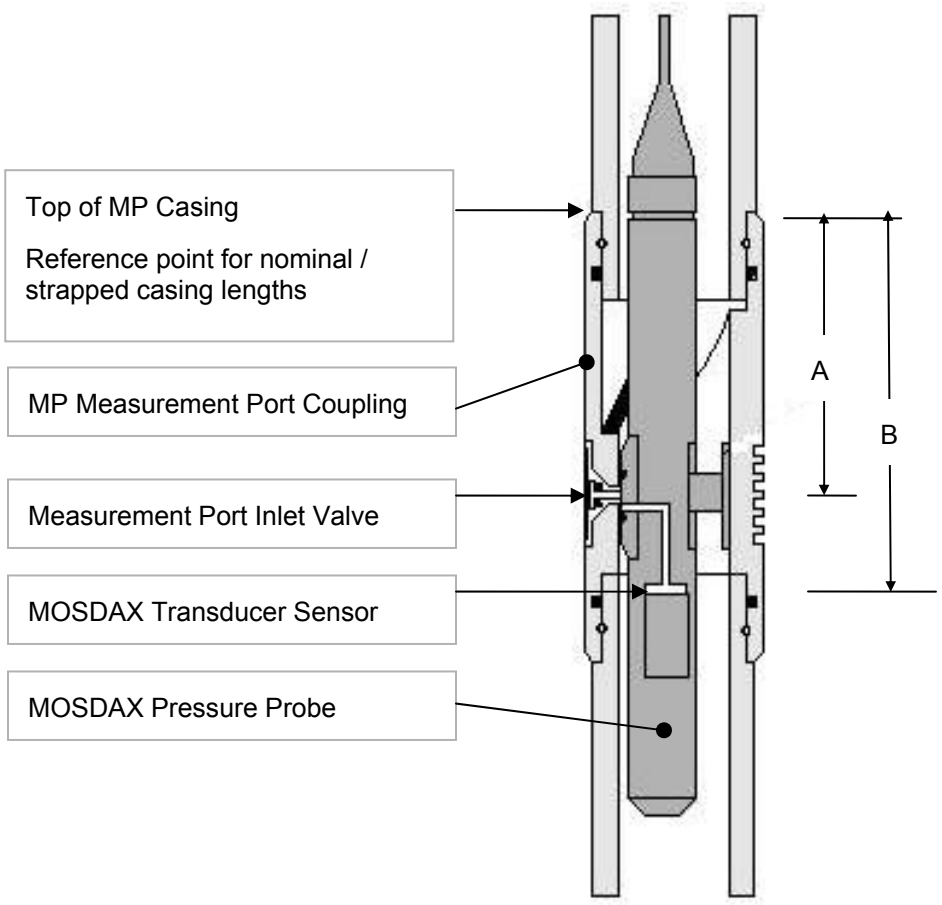
System	Measurement Port Type	A	B
Stainless Steel MP55	0404	5.69" (144.5 mm)	7.69" (195.32 mm)

AB, Oct 21, 2007

Schlumberger WATER SERVICES

MOSDAX Transducer Position

In an MP System Measurement Port Coupling

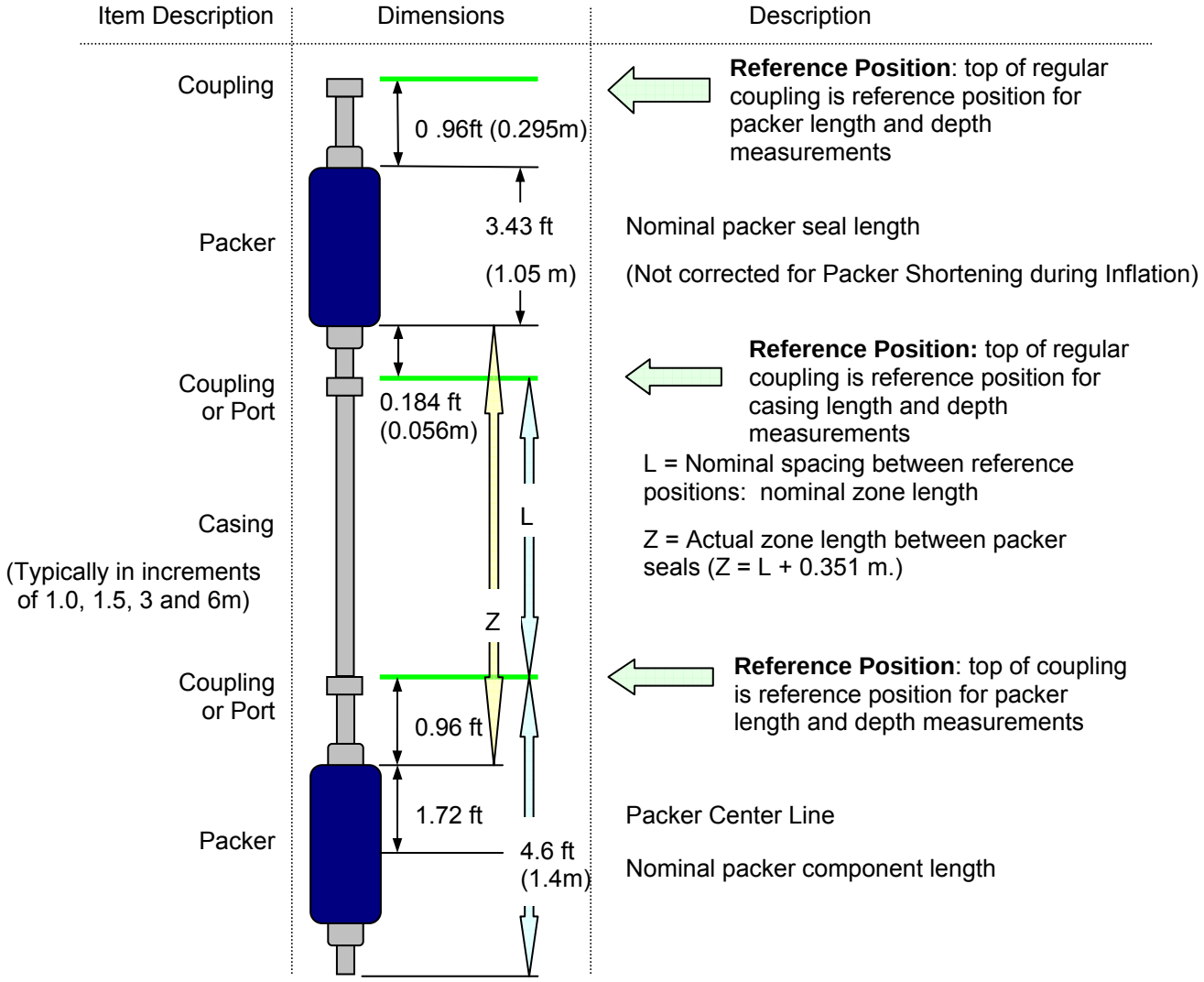


System	Measurement Port Type	A	B
Plastic MP55(2valve)	0605v4	6" (152.4 mm)	8" (203.2 mm)

AB, Oct 21, 2007

Dimensions of Packer Seals and Monitoring Zones

Westbay System – Plastic MP55 0612 Packers



Discussion Points:

- The top of a coupling (Regular Coupling, Measurement Port or Pumping Port) is the reference point for describing nominal depths and nominal lengths. Actual positions of packer seals and zone lengths are determined with respect to the appropriate reference positions.
- Packer Position Example: A packer with a nominal depth of 15 m (49.2ft), will have a nominal packer seal position of 15.295 to 16.345 m. (50.17 to 53.61ft)
- Zone Length Example: A zone whose upper packer is at 15m (49.2ft) and bottom packer is at 19.4m (63.6ft) will have a nominal zone length of 3m (9.84ft) and an actual zone length (between packer seals) of 3 +0.056 +0.295 = 3.351m. (9.84 + 0.96 + 0.1.84 = 10.984ft)
- Information on the position of Measurement Port Valve and MOSDAX Transducer sensor, used for detailed calculation of piezometric level measurements, are described separately.

Appendix - Monitoring Well DGR-02

Table 4
DGR-2 As-Built Packer and Port Summary

Port No.	OPG Zone	Measurement Port Depth, (m)	Pumping Port Depth, (m)	Depth to top of Packer, (m)	Top of Zone (m)	Bottom of Zone (m)	Comments
1	No. 1	841.3	No Pumping Port	839.0	840.8	846.0	
2	No. 2	836.8	No Pumping Port	834.6	836.3	839.0	
3	No. 3	823.4	No Pumping Port	821.2	822.9	834.6	
4	No. 4	811.5	No Pumping Port	807.1	808.5	821.2	
5	No. 5	794.9	No Pumping Port	790.5	792.0	807.1	
6	No. 6	775.4	No Pumping Port	771.0	772.4	790.5	
7	No. 7	764.6	767.7	760.2	761.7	771.0	
8	No. 8	748.0	No Pumping Port	743.6	745.1	760.2	
9	No. 9	734.5	No Pumping Port	730.1	731.6	743.6	
10	No. 10	716.4	No Pumping Port	712.0	713.6	730.1	
11	No. 11	693.8	No Pumping Port	689.4	691.0	712.0	
12	No. 12	680.3	No Pumping Port	675.9	677.3	689.4	
13	No. 13	663.7	No Pumping Port	659.3	660.7	675.9	
14	No. 14	650.2	No Pumping Port	645.8	647.2	659.3	
15	No. 15	630.6	No Pumping Port	626.2	627.6	645.8	
16	No. 16	614.0	No Pumping Port	609.6	611.0	626.2	
17	No. 17	591.5	No Pumping Port	587.1	588.5	609.6	
18	No. 18	583.9	No Pumping Port	579.5	580.9	587.1	
19	No. 19	559.9	No Pumping Port	555.4	556.8	579.5	
20	No. 20	540.3	No Pumping Port	535.9	537.3	555.4	
21	No. 21	520.7	No Pumping Port	516.3	517.7	535.9	
22	No. 22	499.7	No Pumping Port	495.2	496.7	516.3	
23	No. 23	487.6	No Pumping Port	483.2	484.6	495.2	
24	No. 24	480.1	No Pumping Port	475.7	477.1	483.2	
25	No. 25	463.5	No Pumping Port	459.1	460.5	475.7	
26	No. 26	335.8	No Pumping Port	330.8	332.8	459.1	
27	No. 27	222.6	No Pumping Port	217.7	219.6	330.8	
28	No. 28	106.5	No Pumping Port	101.6	103.5	217.7	

Note 1: All depth measurements in meters below datum (ground level).
Note 2: All depth measurements use 'Measured' casing lengths and include slack-off.
Note 3: Not corrected for borehole deviation or borehole temperature effects.
Note 4: All depth measurements to upper edge of MP coupling item.

DGR-2 As-Built Casing Summary

Andrew Bessant, December 18, 2007

Item No.	Component P/N	Component S/N	Coupling P/N	Coupling S/N	Mag Collar (m)	Initial Depth (m)	Nominal Length (m)	Measured Length (m)	Initial Depth (m)	Final Position (m)	Movement (m)
304	60130		602			-2.6	3	3	-2.6	-3.4	-0.77
303	60130		602			0.4	3	3	0.4	-0.4	-0.77
302	60130		602			3.4	3	3	3.4	2.6	-0.77
301	60130		602			6.4	3	3	6.4	5.6	-0.78
300	60130		602			9.4	3	3	9.4	8.6	-0.78
299	60130		602			12.4	3	3	12.4	11.6	-0.78
298	60130		602			15.4	3	3	15.4	14.6	-0.78
297	60130		602			18.4	3	3	18.4	17.6	-0.78
296	60130		602			21.4	3	3	21.4	20.6	-0.79
295	60130		602			24.4	3	3	24.4	23.6	-0.79
294	60130		602			27.4	3	3	27.4	26.6	-0.79
293	60130		602			30.4	3	3	30.4	29.6	-0.79
292	60130		602			33.4	3	3	33.4	32.6	-0.79
291	60130		602			36.4	3	3	36.4	35.6	-0.80
290	60130		602			39.4	3	3	39.4	38.6	-0.80
289	60130		602			42.4	3	3	42.4	41.6	-0.80
288	60130		602			45.4	3	3	45.4	44.6	-0.80
287	60130		602			48.4	3	3	48.4	47.6	-0.80
286	60130		602			51.4	3	3	51.4	50.6	-0.81
285	60130		602			54.4	3	3	54.4	53.6	-0.81
284	60130		602			57.4	3	3	57.4	56.6	-0.81
283	60130		602			60.4	3	3	60.4	59.6	-0.81
282	60130		602			63.4	3	3	63.4	62.6	-0.81
281	60130		602			66.4	3	3	66.4	65.6	-0.82
280	60130		602			69.4	3	3	69.4	68.6	-0.82
279	60130		602			72.4	3	3	72.4	71.6	-0.82
278	60130		602			75.4	3	3	75.4	74.6	-0.82
277	60130		602			78.4	3	3	78.4	77.6	-0.82
276	60130		602			81.4	3	3	81.4	80.6	-0.83
275	60130		602			84.4	3	3	84.4	83.6	-0.83
274	60130		602			87.4	3	3	87.4	86.6	-0.83
273	60130		602			90.4	3	3	90.4	89.6	-0.83
272	60130		602			93.4	3	3	93.4	92.6	-0.83
271	60130		602			96.4	3	3	96.4	95.6	-0.84
270	60130		602			99.4	3	3	99.4	98.6	-0.84
269	618	54	602			102.4	2	1.938	102.4	101.6	-0.84
268	60130		602			104.4	3	3	104.3	103.5	-0.84
267	60130		605	1008	0.93	107.4	3.13	3.137	107.3	106.5	-0.84
266	60130		602			110.5	3	3	110.5	109.6	-0.84
265	60130		602			113.5	3	3	113.5	112.6	-0.84
264	60130		602			116.5	3	3	116.5	115.6	-0.84
263	60130		602			119.5	3	3	119.5	118.6	-0.84
262	60130		602			122.5	3	3	122.5	121.6	-0.84
261	60130		602			125.5	3	3	125.5	124.6	-0.84
260	60130		602			128.5	3	3	128.5	127.6	-0.84
259	60130		602			131.5	3	3	131.5	130.6	-0.83
258	60130		602			134.5	3	3	134.5	133.6	-0.83
257	60130		602			137.5	3	3	137.5	136.6	-0.83
256	60130		602			140.5	3	3	140.5	139.6	-0.83
255	60130		602			143.5	3	3	143.5	142.6	-0.83
254	60130		602			146.5	3	3	146.5	145.6	-0.83
253	60130		602			149.5	3	3	149.5	148.6	-0.83
252	60130		602			152.5	3	3	152.5	151.6	-0.83
251	60130		602			155.5	3	3	155.5	154.6	-0.83
250	60130		602			158.5	3	3	158.5	157.6	-0.83
249	60130		602			161.5	3	3	161.5	160.6	-0.83
248	60130		602			164.5	3	3	164.5	163.6	-0.83

DGR-2 As-Built Casing Summary

Andrew Bessant, December 18, 2007

Item No.	Component P/N	Component S/N	Coupling P/N	Coupling S/N	Mag Collar (m)	Initial Depth (m)	Nominal Length (m)	Measured Length (m)	Initial Depth (m)	Final Position (m)	Movement (m)
247	60130		602			167.5	3	3	167.5	166.6	-0.83
246	60130		602			170.5	3	3	170.5	169.6	-0.83
245	60130		602			173.5	3	3	173.5	172.6	-0.83
244	60130		602			176.5	3	3	176.5	175.6	-0.83
243	60130		602			179.5	3	3	179.5	178.6	-0.83
242	60130		602			182.5	3	3	182.5	181.7	-0.82
241	60130		602			185.5	3	3	185.5	184.7	-0.82
240	60130		602			188.5	3	3	188.5	187.7	-0.82
239	60130		602			191.5	3	3	191.5	190.7	-0.82
238	60130		602			194.5	3	3	194.5	193.7	-0.82
237	60130		602			197.5	3	3	197.5	196.7	-0.82
236	60130		602			200.5	3	3	200.5	199.7	-0.82
235	60130		602			203.5	3	3	203.5	202.7	-0.82
234	60130		602			206.5	3	3	206.5	205.7	-0.82
233	60130		602			209.5	3	3	209.5	208.7	-0.82
232	60130		602			212.5	3	3	212.5	211.7	-0.82
231	60130		602			215.5	3	3	215.5	214.7	-0.82
230	618	55	602			218.5	2	1.937	218.5	217.7	-0.82
229	60130		602			220.6	3	3	220.4	219.6	-0.82
228	60130		605	1031	0.93	223.6	3.14	3.137	223.4	222.6	-0.81
227	60130		602			226.7	3	3	226.5	225.7	-0.81
226	60130		602			229.7	3	3	229.5	228.7	-0.81
225	60130		602			232.7	3	3	232.5	231.7	-0.81
224	60130		602			235.7	3	3	235.5	234.7	-0.80
223	60130		602			238.7	3	3	238.5	237.7	-0.80
222	60130		602			241.7	3	3	241.5	240.7	-0.80
221	60130		602			244.7	3	3	244.5	243.8	-0.80
220	60130		602			247.7	3	3	247.5	246.8	-0.79
219	60130		602			250.7	3	3	250.5	249.8	-0.79
218	60130		602			253.7	3	3	253.5	252.8	-0.79
217	60130		602			256.7	3	3	256.5	255.8	-0.79
216	60130		602			259.7	3	3	259.5	258.8	-0.78
215	60130		602			262.7	3	3	262.5	261.8	-0.78
214	60130		602			265.7	3	3	265.5	264.8	-0.78
213	60130		602			268.7	3	3	268.5	267.8	-0.78
212	60130		602			271.7	3	3	271.5	270.8	-0.77
211	60130		602			274.7	3	3	274.5	273.8	-0.77
210	60130		602			277.7	3	3	277.5	276.8	-0.77
209	60130		602			280.7	3	3	280.5	279.8	-0.77
208	60130		602			283.7	3	3	283.5	282.8	-0.76
207	60130		602			286.7	3	3	286.5	285.8	-0.76
206	60130		602			289.7	3	3	289.5	288.8	-0.76
205	60130		602			292.7	3	3	292.5	291.8	-0.76
204	60130		602			295.7	3	3	295.5	294.8	-0.75
203	60130		602			298.7	3	3	298.5	297.8	-0.75
202	60130		602			301.7	3	3	301.5	300.8	-0.75
201	60130		602			304.7	3	3	304.5	303.8	-0.75
200	60130		602			307.7	3	3	307.5	306.8	-0.74
199	60130		602			310.7	3	3	310.5	309.8	-0.74
198	60130		602			313.7	3	3	313.5	312.8	-0.74
197	60130		602			316.7	3	3	316.5	315.8	-0.74
196	60130		602			319.7	3	3	319.5	318.8	-0.73
195	60130		602			322.7	3	3	322.5	321.8	-0.73
194	60130		602			325.7	3	3	325.5	324.8	-0.73
193	60130		602			328.7	3	3	328.5	327.8	-0.73
192	618	53	602			331.7	2	1.94	331.5	330.8	-0.73
191	60130		602			333.7	3	3	333.5	332.8	-0.72
190	60130		605	1029	0.93	336.7	3.14	3.137	336.5	335.8	-0.72
189	60130		602			339.9	3	3	339.6	338.9	-0.71

DGR-2 As-Built Casing Summary

Andrew Bessant, December 18, 2007

Item No.	Component P/N	Component S/N	Coupling P/N	Coupling S/N	Mag Collar (m)	Initial Depth (m)	Nominal Length (m)	Measured Length (m)	Initial Depth (m)	Final Position (m)	Movement (m)
188	60130		602			342.9	3	3	342.6	341.9	-0.71
187	60130		602			345.9	3	3	345.6	344.9	-0.70
186	60130		602			348.9	3	3	348.6	347.9	-0.70
185	60130		602			351.9	3	3	351.6	350.9	-0.70
184	60130		602			354.9	3	3	354.6	353.9	-0.69
183	60130		602			357.9	3	3	357.6	356.9	-0.69
182	60130		602			360.9	3	3	360.6	359.9	-0.68
181	60130		602			363.9	3	3	363.6	362.9	-0.68
180	60130		602			366.9	3	3	366.6	366.0	-0.67
179	60130		602			369.9	3	3	369.6	369.0	-0.67
178	60130		602			372.9	3	3	372.6	372.0	-0.66
177	60130		602			375.9	3	3	375.6	375.0	-0.66
176	60130		602			378.9	3	3	378.6	378.0	-0.66
175	60130		602			381.9	3	3	381.6	381.0	-0.65
174	60130		602			384.9	3	3	384.6	384.0	-0.65
173	60130		602			387.9	3	3	387.6	387.0	-0.64
172	60130		602			390.9	3	3	390.6	390.0	-0.64
171	60130		602			393.9	3	3	393.6	393.0	-0.63
170	60130		602			396.9	3	3	396.6	396.0	-0.63
169	60130		602			399.9	3	3	399.6	399.0	-0.62
168	60130		602			402.9	3	3	402.6	402.0	-0.62
167	60130		602			405.9	3	3	405.6	405.0	-0.62
166	60130		602			408.9	3	3	408.6	408.0	-0.61
165	60130		602			411.9	3	3	411.6	411.0	-0.61
164	60130		602			414.9	3	3	414.6	414.0	-0.60
163	60130		602			417.9	3	3	417.6	417.0	-0.60
162	60130		602			420.9	3	3	420.6	420.0	-0.59
161	60130		602			423.9	3	3	423.6	423.0	-0.59
160	60130		602			426.9	3	3	426.6	426.0	-0.58
159	60130		602			429.9	3	3	429.6	429.0	-0.58
158	60130		602			432.9	3	3	432.6	432.1	-0.58
157	60130		602			435.9	3	3	435.6	435.1	-0.57
156	60130		602			438.9	3	3	438.6	438.1	-0.57
155	60130		602			441.9	3	3	441.6	441.1	-0.56
154	60130		602			444.9	3	3	444.6	444.1	-0.56
153	60130		602			447.9	3	3	447.6	447.1	-0.55
152	60130		602			450.9	3	3	450.6	450.1	-0.55
151	60130		602			453.9	3	3	453.6	453.1	-0.54
150	60130		602			456.9	3	3	456.6	456.1	-0.54
149	612	566	602			459.9	1.4	1.4	459.6	459.1	-0.54
148	60130		602			461.3	3	3	461.0	460.5	-0.53
147	60130		605	1025	0.93	464.3	3.14	3.136	464.0	463.5	-0.53
146	60130		602			467.4	3	3	467.2	466.6	-0.52
145	60130		602			470.4	3	3	470.2	469.6	-0.52
144	60130		602			473.4	3	3	473.2	472.6	-0.52
143	612	570	602			476.4	1.4	1.4	476.2	475.7	-0.51
142	60130		602			477.8	3	3	477.6	477.1	-0.51
141	60130		605	1026	0.93	480.8	3.14	3.134	480.6	480.1	-0.50
140	612	587	602			484.0	1.4	1.4	483.7	483.2	-0.50
139	60130		602			485.4	3	3	485.1	484.6	-0.50
138	60130		605	1027	0.93	488.4	3.14	3.134	488.1	487.6	-0.49
137	60115		602			491.5	1.5	1.5	491.2	490.7	-0.49
136	60130		602			493.0	3	3	492.7	492.2	-0.49
135	612	552	602			496.0	1.4	1.4	495.7	495.2	-0.48
134	60130		602			497.4	3	3	497.1	496.7	-0.48
133	60130		605	1028	0.93	500.4	3.14	3.134	500.1	499.7	-0.48
132	60130		602			503.5	3	3	503.3	502.8	-0.47
131	60130		602			506.5	3	3	506.3	505.8	-0.47
130	60115		602			509.5	1.5	1.5	509.3	508.8	-0.46

DGR-2 As-Built Casing Summary

Andrew Bessant, December 18, 2007

Item No.	Component P/N	Component S/N	Coupling P/N	Coupling S/N	Mag Collar (m)	Initial Depth (m)	Nominal Length (m)	Measured Length (m)	Initial Depth (m)	Final Position (m)	Movement (m)
129	60130		602			511.0	3	3	510.8	510.3	-0.46
128	60130		602			514.0	3	3	513.8	513.3	-0.46
127	612	583	602			517.0	1.4	1.4	516.8	516.3	-0.45
126	60130		602			518.4	3	3	518.2	517.7	-0.45
125	60130		605	1009	0.93	521.4	3.13	3.137	521.2	520.7	-0.44
124	60130		602			524.6	3	3	524.3	523.9	-0.44
123	60130		602			527.6	3	3	527.3	526.9	-0.44
122	60130		602			530.6	3	3	530.3	529.9	-0.43
121	60130		602			533.6	3	3	533.3	532.9	-0.43
120	612	578	602			536.6	1.4	1.4	536.3	535.9	-0.42
119	60130		602			538.0	3	3	537.7	537.3	-0.42
118	60130		605	1006	0.93	541.0	3.14	3.137	540.7	540.3	-0.42
117	60130		602			544.1	3	3	543.8	543.4	-0.41
116	60130		602			547.1	3	3	546.8	546.4	-0.41
115	60130		602			550.1	3	3	549.8	549.4	-0.40
114	60130		602			553.1	3	3	552.8	552.4	-0.40
113	612	555	602			556.1	1.4	1.4	555.8	555.4	-0.39
112	60130		602			557.5	3	3	557.2	556.8	-0.39
111	60130		605	1005	0.93	560.5	3.14	3.137	560.2	559.9	-0.39
110	60130		602			563.6	3	3	563.4	563.0	-0.38
109	60130		602			566.6	3	3	566.4	566.0	-0.38
108	60130		602			569.6	3	3	569.4	569.0	-0.37
107	60115		602			572.6	1.5	1.5	572.4	572.0	-0.37
106	60130		602			574.1	3	3	573.9	573.5	-0.37
105	60130		602			577.1	3	3	576.9	576.5	-0.36
104	612	559	602			580.1	1.4	1.4	579.9	579.5	-0.36
103	60130		602			581.5	3	3	581.3	580.9	-0.36
102	60130		605	1007	0.93	584.5	3.14	3.137	584.3	583.9	-0.35
101	612	567	602			587.7	1.4	1.4	587.4	587.1	-0.35
100	60130		602			589.1	3	3	588.8	588.5	-0.34
99	60130		605	1030	0.93	592.1	3.14	3.137	591.8	591.5	-0.34
98	60130		602			595.2	3	3	594.9	594.6	-0.34
97	60130		602			598.2	3	3	597.9	597.6	-0.33
96	60130		602			601.2	3	3	600.9	600.6	-0.33
95	60130		602			604.2	3	3	603.9	603.6	-0.32
94	60130		602			607.2	3	3	606.9	606.6	-0.32
93	612	563	602			610.2	1.4	1.4	609.9	609.6	-0.31
92	60130		602			611.6	3	3	611.3	611.0	-0.31
91	60130		605	996	0.93	614.6	3.14	3.138	614.3	614.0	-0.31
90	60130		602			617.8	3	3	617.5	617.2	-0.30
89	60130		602			620.8	3	3	620.5	620.2	-0.30
88	60130		602			623.8	3	3	623.5	623.2	-0.29
87	612	565	602			626.8	1.4	1.4	626.5	626.2	-0.29
86	60130		602			628.2	3	3	627.9	627.6	-0.29
85	60130		605	997	0.93	631.2	3.13	3.137	630.9	630.6	-0.28
84	60130		602			634.3	3	3	634.0	633.7	-0.28
83	60130		602			637.3	3	3	637.0	636.8	-0.27
82	60130		602			640.3	3	3	640.0	639.8	-0.27
81	60130		602			643.3	3	3	643.0	642.8	-0.26
80	612	550	602			646.3	1.4	1.4	646.0	645.8	-0.26
79	60130		602			647.7	3	3	647.4	647.2	-0.26
78	60130		605	1066	0.93	650.7	3.14	3.137	650.4	650.2	-0.25
77	60130		602			653.8	3	3	653.6	653.3	-0.25
76	60130		602			656.8	3	3	656.6	656.3	-0.24
75	612	561	602			659.8	1.4	1.4	659.6	659.3	-0.24
74	60130		602			661.2	3	3	661.0	660.7	-0.24
73	60130		605	1067	0.93	664.2	3.14	3.137	664.0	663.7	-0.23
72	60130		602			667.4	3	3	667.1	666.9	-0.23
71	60130		602			670.4	3	3	670.1	669.9	-0.22

DGR-2 As-Built Casing Summary

Andrew Bessant, December 18, 2007

Item No.	Component P/N	Component S/N	Coupling P/N	Coupling S/N	Mag Collar (m)	Initial Depth (m)	Nominal Length (m)	Measured Length (m)	Initial Depth (m)	Final Position (m)	Movement (m)
70	60130		602			673.4	3	3	673.1	672.9	-0.22
69	612	569	602			676.4	1.4	1.4	676.1	675.9	-0.21
68	60130		602			677.8	3	3	677.5	677.3	-0.21
67	60130		605	999	0.93	680.8	3.14	3.137	680.5	680.3	-0.21
66	60130		602			683.9	3	3	683.6	683.4	-0.20
65	60130		602			686.9	3	3	686.6	686.4	-0.20
64	612	535	602			689.9	1.4	1.4	689.6	689.4	-0.19
63	60130		602			691.3	3	3	691.0	690.8	-0.19
62	60130		605	1002	0.93	694.3	3.14	3.137	694.0	693.8	-0.19
61	60130		602			697.4	3	3	697.2	697.0	-0.18
60	60130		602			700.4	3	3	700.2	700.0	-0.18
59	60130		602			703.4	3	3	703.2	703.0	-0.17
58	60130		602			706.4	3	3	706.2	706.0	-0.17
57	60130		602			709.4	3	3	709.2	709.0	-0.17
56	612	564	602			712.4	1.4	1.4	712.2	712.0	-0.16
55	60130		602			713.8	3	3	713.6	713.4	-0.16
54	60130		605	1003	0.93	716.8	3.14	3.137	716.6	716.4	-0.15
53	60130		602			720.0	3	3	719.7	719.6	-0.15
52	60115		602			723.0	1.5	1.5	722.7	722.6	-0.15
51	60130		602			724.5	3	3	724.2	724.1	-0.14
50	60130		602			727.5	3	3	727.2	727.1	-0.14
49	612	345B	602			730.5	1.4	1.4	730.2	730.1	-0.13
48	60130		602			731.9	3	3	731.6	731.5	-0.13
47	60130		605	1004	0.93	734.9	3.14	3.137	734.6	734.5	-0.13
46	60130		602			738.0	3	3	737.7	737.6	-0.12
45	60130		602			741.0	3	3	740.7	740.6	-0.12
44	612	455B	602			744.0	1.4	1.4	743.7	743.6	-0.11
43	60130		602			745.4	3	3	745.1	745.0	-0.11
42	60130		605	1068	0.93	748.4	3.14	3.138	748.1	748.0	-0.11
41	60130		602			751.5	3	3	751.3	751.2	-0.10
40	60130		602			754.5	3	3	754.3	754.2	-0.10
39	60130		602			757.5	3	3	757.3	757.2	-0.09
38	612	344B	602			760.5	1.4	1.4	760.3	760.2	-0.09
37	60130		602			761.9	3	3	761.7	761.6	-0.09
36	60130		605	1065	0.93	764.9	3.14	3.138	764.7	764.6	-0.08
35	60130		632	253		768.1	3.22	3.225	767.8	767.7	-0.08
34	612	554	602			771.3	1.4	1.4	771.0	771.0	-0.07
33	60130		602			772.7	3	3	772.4	772.4	-0.07
32	60130		605	1001	0.93	775.7	3.14	3.135	775.4	775.4	-0.07
31	60130		602			778.8	3	3	778.6	778.5	-0.06
30	60130		602			781.8	3	3	781.6	781.5	-0.06
29	60130		602			784.8	3	3	784.6	784.5	-0.05
28	60130		602			787.8	3	3	787.6	787.5	-0.05
27	612	551	602			790.8	1.4	1.4	790.6	790.5	-0.05
26	60130		602			792.2	3	3	792.0	791.9	-0.04
25	60130		605	1000	0.93	795.2	3.14	3.136	795.0	794.9	-0.04
24	60130		602			798.4	3	3	798.1	798.1	-0.03
23	60130		602			801.4	3	3	801.1	801.1	-0.03
22	60130		602			804.4	3	3	804.1	804.1	-0.03
21	612	454B	602			807.4	1.4	1.4	807.1	807.1	-0.02
20	60130		602			808.8	3	3	808.5	808.5	-0.02
19	60130		605	998	0.93	811.8	3.14	3.138	811.5	811.5	-0.01
18	60130		602			814.9	3	3	814.7	814.6	-0.01
17	60130		602			817.9	3	3	817.7	817.7	-0.01
16	0401M05		415			820.9	0.5	0.5	820.7	820.7	0.00
15	418	51				821.4	1.77	1.77	821.2	821.2	0.00
14	0401M05		402			823.2	0.5	0.5	822.9	822.9	0.00
13	0401M30		404	52	0.93	823.7	3.15	3.15	823.4	823.4	0.00
12	0401M15		402			826.9	1.5	1.5	826.6	826.6	0.00

DGR-2 As-Built Casing Summary

Andrew Bessant, December 18, 2007

Item No.	Component P/N	Component S/N	Coupling P/N	Coupling S/N	Mag Collar (m)	Initial Depth (m)	Nominal Length (m)	Measured Length (m)	Initial Depth (m)	Final Position (m)	Movement (m)
11	0401M15		402			828.4	1.5	1.5	828.1	828.1	0.00
10	0401M15		402			829.9	1.5	1.5	829.6	829.6	0.00
9	0401M30		402			831.4	3	3	831.1	831.1	0.00
8	0401M05		402			834.4	0.5	0.5	834.1	834.1	0.00
7	418	52				834.9	1.78	1.77	834.6	834.6	0.00
6	0401M05		402			836.6	0.5	0.5	836.3	836.3	0.00
5	0401M15		404	100	0.93	837.1	1.65	1.65	836.8	836.8	0.00
4	0401M05		402			838.8	0.5	0.5	838.5	838.5	0.00
3	418	49				839.3	1.78	1.77	839.0	839.0	0.00
2	0401M05		402			841.1	0.5	0.5	840.8	840.8	0.00
1	0401M30		404	53	0.93	841.6	3.15	3.15	841.3	841.3	0.00
0	403					844.7			844.4	844.4	0.00

Pre-Inflation Pressure Profile Calculation Sheet
Monitoring Well: DGR-02

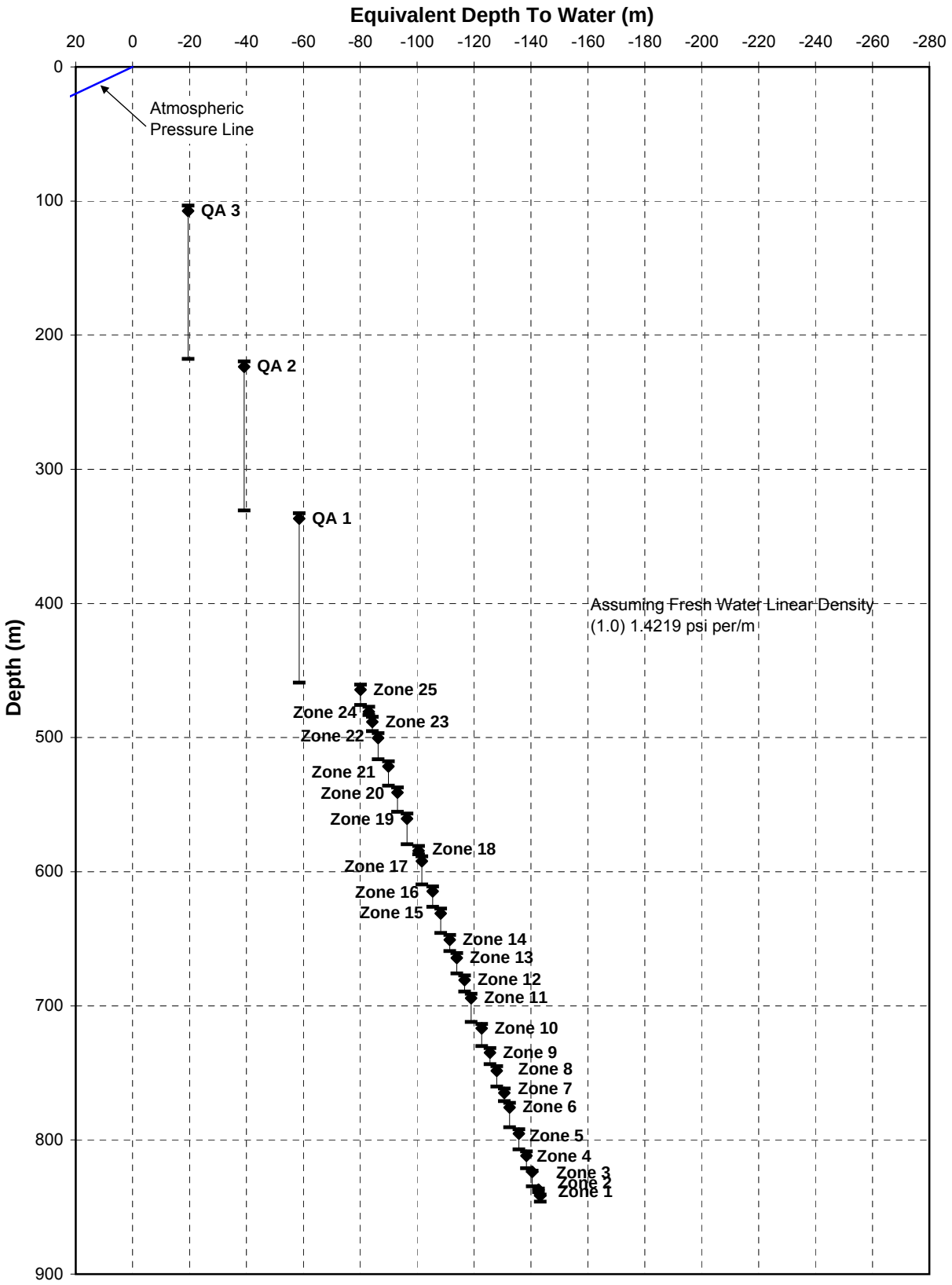
Date: 30-Nov-07
Probe: EMS 2653

	Atmospheric =	14.25		Pressure head outside port	Piez. Level outside port
Port (Zone) No.	Port Depth (nominal, m)	P1 (psi)	P2 (psi)	H = (P2-Patm)/w	Dz = Dp-H
1	841.6	1215.6	1414.6	984.8	-143.2
2	837.1	1209.1	1407.4	979.7	-142.6
3	823.7	1190.0	1385.2	964.2	-140.5
4	811.8	1172.9	1365.4	950.2	-138.4
5	795.2	1149.3	1338.0	931.0	-135.8
6	775.7	1121.4	1305.6	908.2	-132.5
7	764.9	1105.8	1287.7	895.6	-130.7
8	748.4	1082.2	1260.3	876.3	-127.9
9	734.9	1062.9	1237.8	860.5	-125.6
10	716.8	1037.1	1208.0	839.5	-122.7
11	694.3	1005.0	1170.6	813.2	-118.9
12	680.8	985.6	1148.1	797.4	-116.6
13	664.2	962.4	1120.7	778.1	-113.9
14	650.7	942.8	1098.0	762.2	-111.5
15	631.1	915.0	1065.6	739.4	-108.3
16	614.6	891.4	1038.1	720.1	-105.5
17	592.1	859.2	1000.7	693.8	-101.7
18	584.5	848.4	988.2	685.0	-100.5
19	560.5	814.0	948.3	656.9	-96.4
20	541.0	786.2	915.9	634.1	-93.1
21	521.4	758.2	883.4	611.3	-89.9
22	500.4	728.2	848.4	586.7	-86.3
23	488.4	710.9	828.5	572.6	-84.2
24	480.8	700.4	815.9	563.8	-83.0
25	464.3	676.7	788.4	544.4	-80.1
26	336.7	494.5	576.2	395.2	-58.5
27	223.6	332.9	388.0	262.8	-39.2
28	107.4	167.1	194.6	126.9	-19.5

Note: Not corrected for effects of borehole deviation or temperature or fluid density. Fresh water density assumed
Note: Datum is GL=0. Top of concrete pad.
Note: Depths for Measurement Ports from Well Designer using "measured" legths of components.

Piezometric Profile:
Monitoring Well: DGR-02

Profile Date:November 30, 2007
Comments:Pre-Inflation Profile



Plot By:____ Date:____
Checked By:____Date:____
Westbay Project:WB 860

Client:OPG
Site:Bruce, Ont
Datum:Ground Surface

Figure 1

Post-Inflation Pressure Profile Calculation Sheet
Monitoring Well: DGR-02

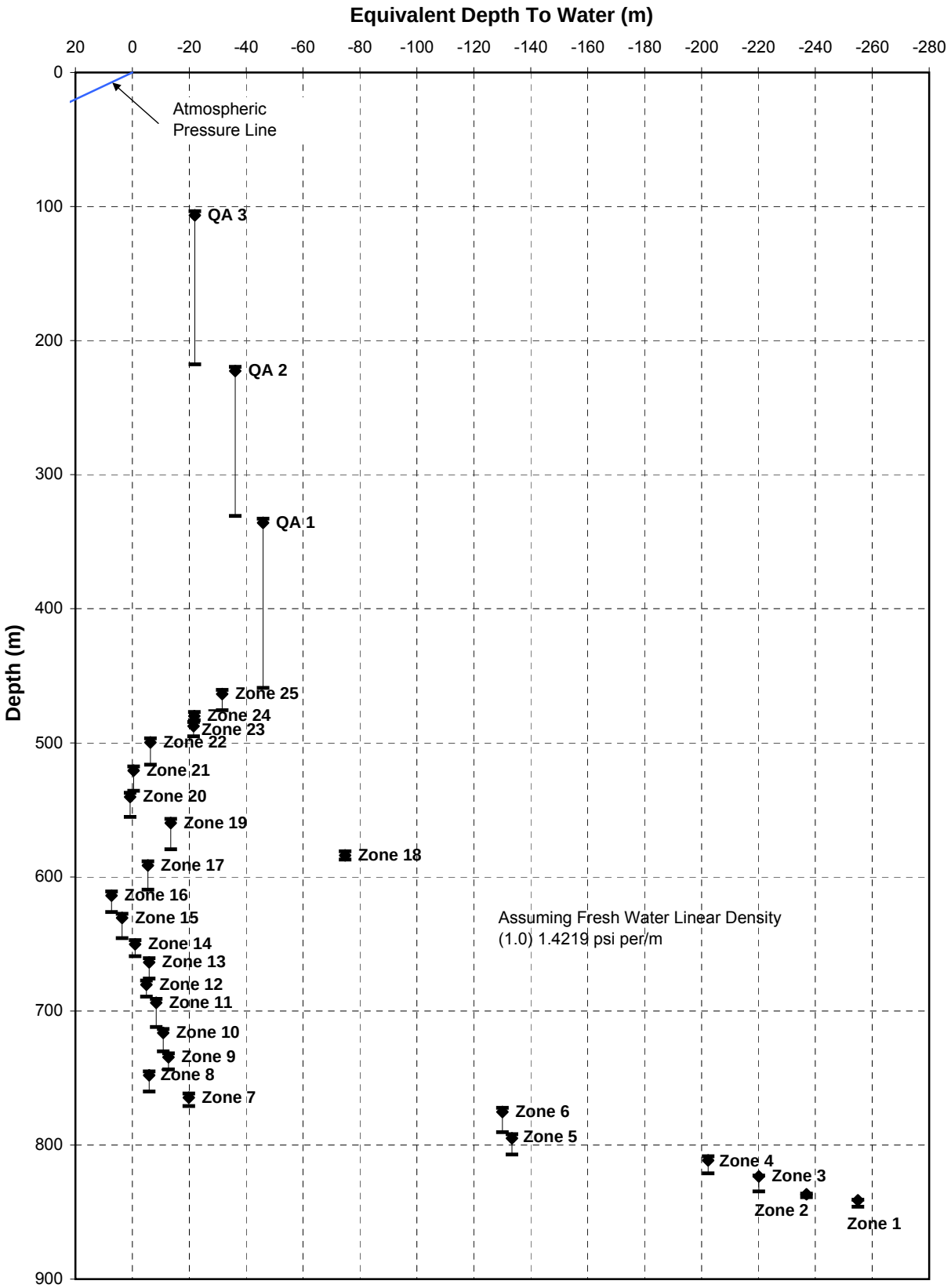
Date: 11-Dec-08
Probe: EMS 2653

	Atmospheric =	14.09		Pressure head outside port	Piez. Level outside port
Port (Zone) No.	Port Depth (nominal, m)	P1 (psi)	P2 (psi)	H = (P2-Patm)/w	Dz = Dp-H
1	841.3	1214.3	1572.9	1096.3	-255.0
2	836.8	1206.7	1540.8	1073.7	-236.9
3	823.4	1187.5	1497.9	1043.6	-220.2
4	811.5	1170.2	1455.7	1013.8	-202.3
5	794.9	1146.3	1334.0	928.3	-133.4
6	775.4	1118.3	1301.5	905.4	-130.0
7	764.6	1102.2	1129.6	784.5	-19.9
8	748.0	1078.2	1086.0	753.9	-5.9
9	734.5	1058.5	1076.5	747.2	-12.7
10	716.4	1032.5	1048.1	727.2	-10.8
11	693.8	999.9	1012.5	702.2	-8.4
12	680.3	980.3	988.4	685.2	-4.9
13	663.7	956.2	966.2	669.6	-5.9
14	650.2	936.4	940.0	651.2	-1.0
15	630.6	908.2	905.6	627.0	3.6
16	614.0	884.0	876.7	606.7	7.3
17	591.5	851.0	863.0	597.0	-5.5
18	583.9	839.7	950.7	658.7	-74.8
19	559.9	804.7	829.4	573.4	-13.5
20	540.3	776.5	781.2	539.5	0.8
21	520.7	748.3	755.1	521.1	-0.4
22	499.7	717.8	733.6	506.0	-6.3
23	487.6	700.2	738.0	509.1	-21.5
24	480.1	689.1	727.8	501.9	-21.8
25	463.5	665.0	718.0	495.1	-31.6
26	335.8	481.2	556.9	381.7	-45.9
27	222.6	319.1	382.0	258.8	-36.2
28	106.5	152.9	196.7	128.5	-22.0

Note: Not corrected for effects of borehole deviation or temperature or fluid density. Fresh water density assumed
Note: Datum is GL=0. Top of concrete pad.
Note: Depths for Measurement Ports from Well Designer using "measured" legths of components.

Piezometric Profile
Monitoring Well: DGR-02

Profile Date: December 11, 2007
Comments:Post Inflation Profile

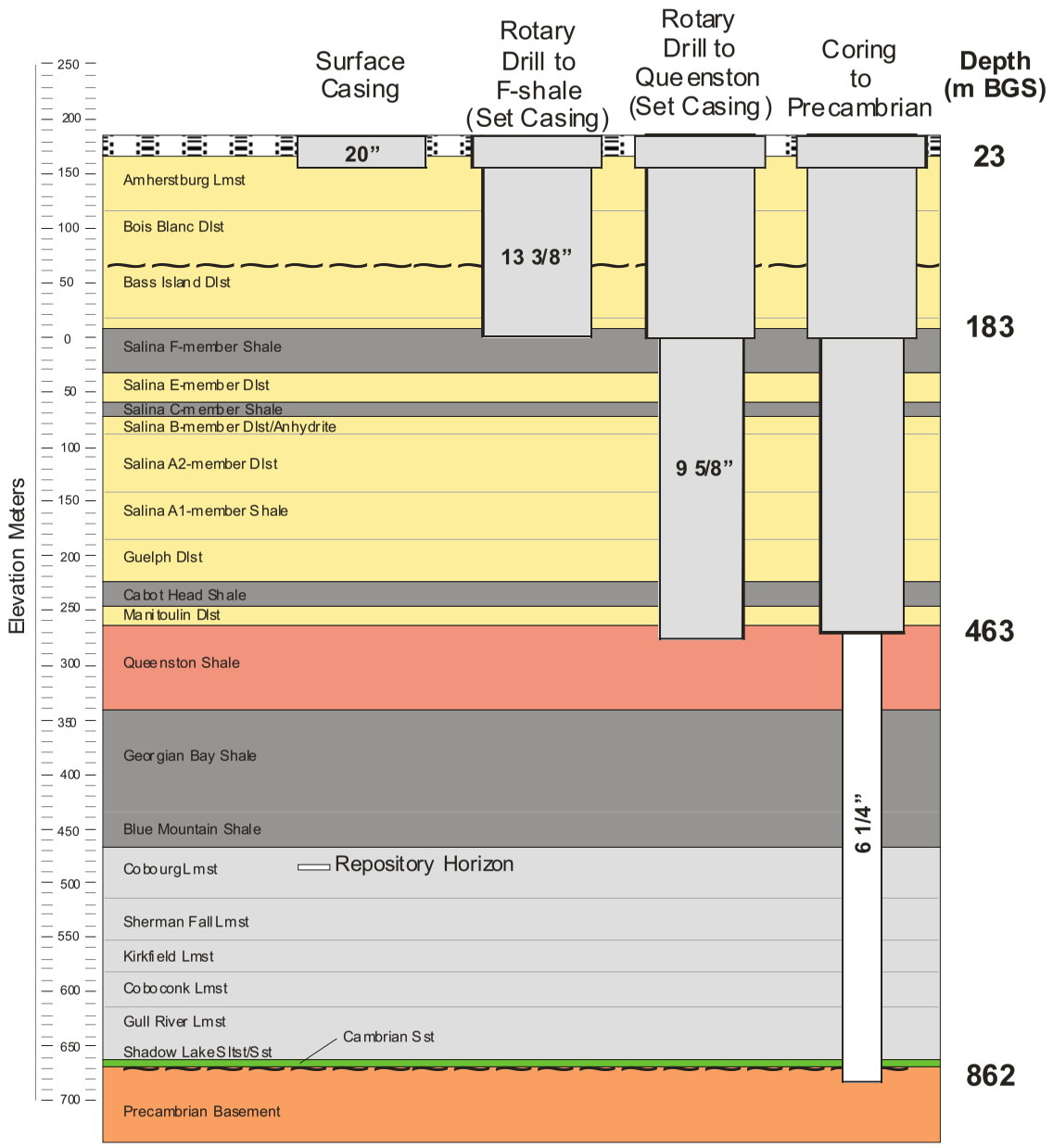


Client:OPG
Site:Bruce, Ont
Datum: Ground Surface

Figure 2

Plot By:_____ Date:____
Checked By:____ Date:____
Westbay Project:WB 860

DGR-2 Drilling Sequence

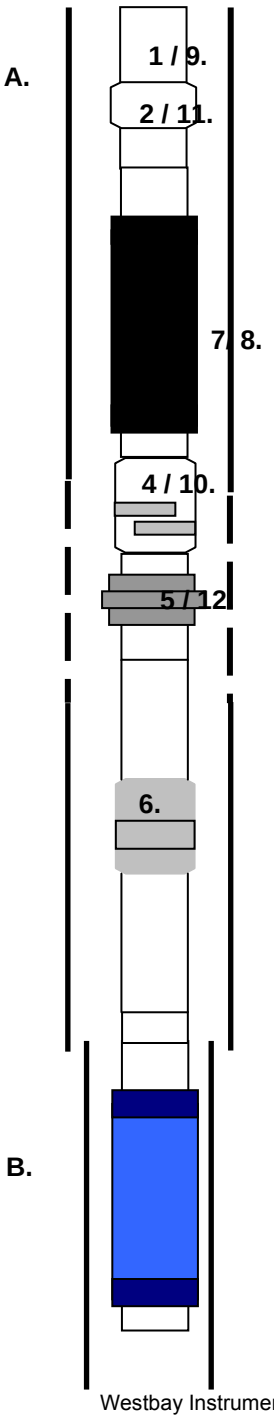


Hole diam (inch)	Hole diam (mm)	Casing (inch)	Casing (mm)
24”	610 mm	20”	508 mm
17 ½”	445 mm	13 3/8”	340 mm
12 ¼”	318 mm	9 5/8”	245 mm
6 ¼”	160 mm		

Figure 4

MP Drift Diagram

Job No.: WB860	Monitoring Well No. DGR-2	Drawn By: AJB
Client: OPG	Project: Bruce	Date: January 18, 2008
Drift Approval	Borehole Items:	2
	MP Casing Items:	12



Borehole and Monitoring Well Dimensions				
Item	Model No.	Description	I.D. (mm/in)	O.D. (mm/in)
MP System Casing Items				
1.	0601	MP55 Casing	57 / 2.25	73 / 2.87
2.	0602	MP55 Regular Coupling	57 / 2.25	91 / 3.6
3.	0612	Stiffened Packer	57 / 2.25	110 / 4.3
4.	0605	MP55 Measurement Port Coupling	57 / 2.25	90 / 3.5
5.	0608	MP55 Magnetic Location Collar	73.5 / 2.9	91 / 3.6
6.	0607	MP55 Pumping Port	57 / 2.25	88./ 3.5
7.	0618	MP55 Packer – GeoPro	57 / 2.25	125 / 5.0
8.	0418	MP55 Packer - GeoPro	57 / 2.25	125 / 5.0
9	0401	MP55 SS Casing	57 / 2.25	63.5 / 2.5
10	0404	MP55 SS Measurement Port	57 / 2.25	90 / 3.5
11	0402	MP55 SS Regular Coupling	57 / 2.25	73 / 2.87
12	0408	MP55 Magnetic Location Collar	73.5 / 2.9	91 / 3.6
13				
Borehole Items				
.A	N/A	Steel Well Casing with perforation zones.	241 / 9.5	N/A
B	N/A	Open Borehole	158.7 / 6.25	N/A

Notes:

1) The sketches of MP casing components on this Drift Diagram are only to illustrate comparative dimensions. Please refer to the Proposed Casing Log for details on the sequence of MP casing components in the well.
2) Nominal 'drift' for tools to run inside MP55 casing components = 50mm.

Summary Casing Log

Company: Intera
Well: DGR-2
Site: Kincardine, ON
Project: Bruce Site Investigation

Job No: WB860
Author: DL

Well Information

Reference Datum: Ground Level
Elevation of Datum: 0.00 m.
MP Casing Top: 0.00 m.
MP Casing Length: 844.72 m.

Borehole Depth: 850.00 m.
Borehole Inclination: Vertical
Borehole Diameter: 159.00 mm

Well Description:
Plastic MP55 with SS MP55 bottom
Other References:
SS MP55 Starts at 826m depth
Surface Casing to 451m

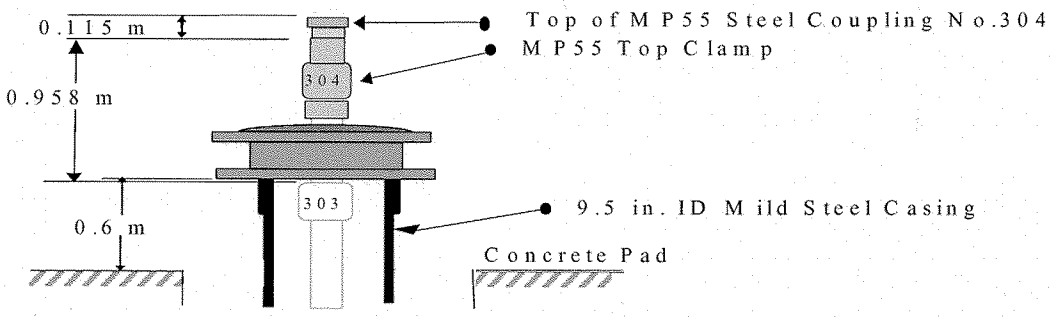
File Information

File Name: DGR2_D2.WWD
Report Date: Tue Jan 08 20:35:47 2008

File Date: Dec 18 12:16:11 2007

Sketch of Wellhead Completion

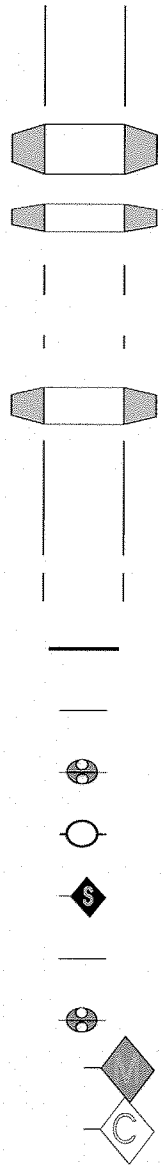
D G R - 0 2 S u r f a c e C o m p l e t i o n
(b e f o r e a t t a c h m e n t o f m o n o p o d b r a c k e t)



Legend

(Qty) MP Components

(Library - WD Library 7/27/00)



(259) 060130 - MP55 Casing 1 (3M/10F)

(3) 0618 - MP 55 GeoPro Packer 125mm

(22) 0612 - MP55 Packer 110mm

(4) 060115 - MP55 Casing 2 (1.5M/5F)

(6) 0401M05 - SS MP55 Steel Casing, 0.5m

(3) 0418 - SS 55 GeoPro Packer 125mm

(3) 0401M30 - SS MP55 Steel Casing, 3m

(4) 0401M15 - SS MP55 Steel Casing, 1.5m

(1) 0403 - SS MP55 End Plug

(262) 0602 - MP55 Regular Coupling

(25) 0605 - MP55 Measurement Port

(1) 0632 - MP55 Hydraulic Pumping Port

(1) 0415 - SS MP55 Adapter Coupling

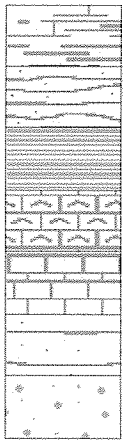
(9) 0402 - SS MP55 Regular Coupling

(3) 0404 - SS MP55 Measurement Port

(25) 0608 - MP55 Magnetic Location Collar

(3) 0408 - SS MP55 Magnetic Collar

Geology



Shale, Calcareous

Shale, Sandy

Shale

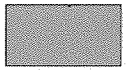
Limestone, Shaly

Limestaone Bedded

Sandstone, Shaly

Sandstone, Coarse

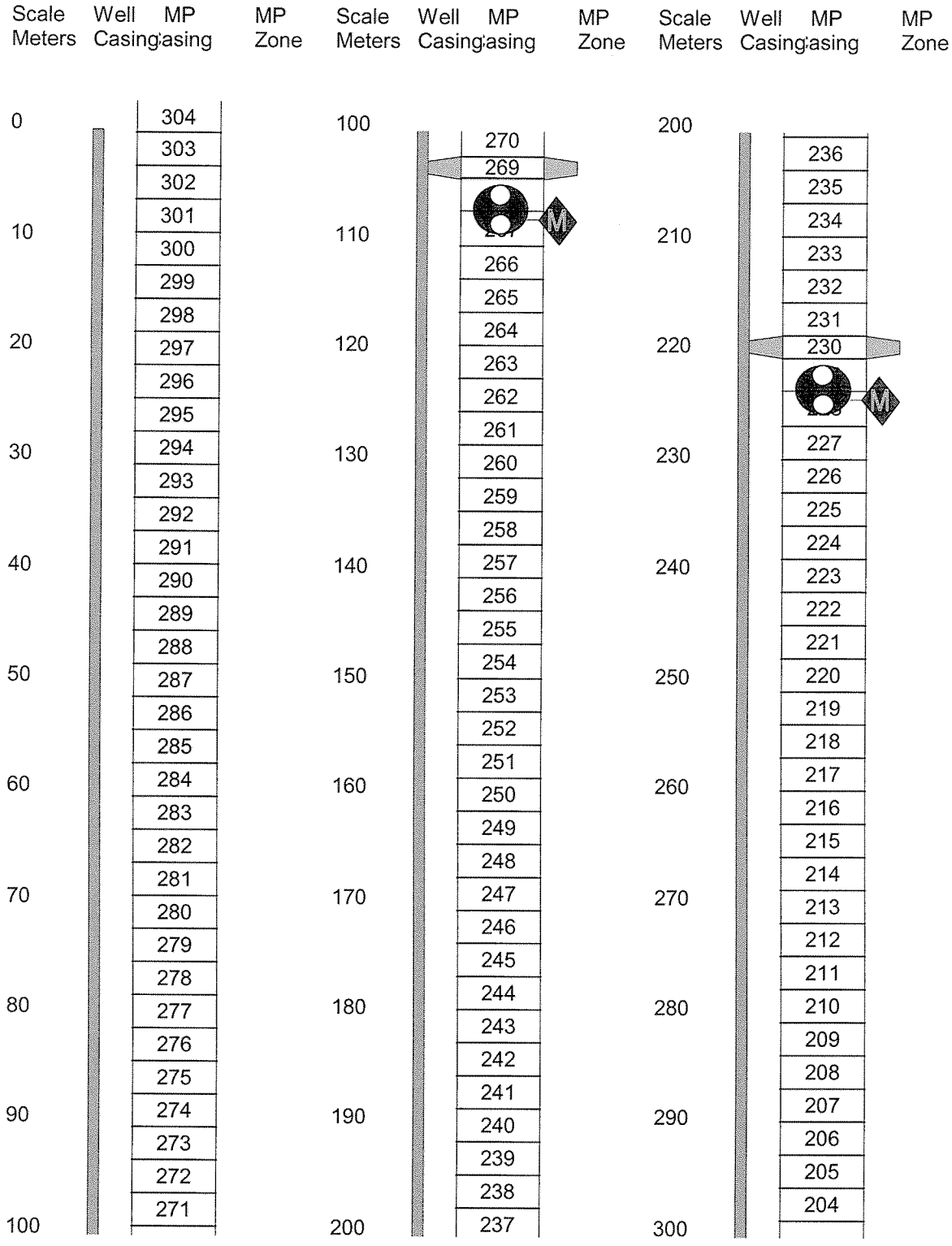
Backfill/Casing



Mild Steel

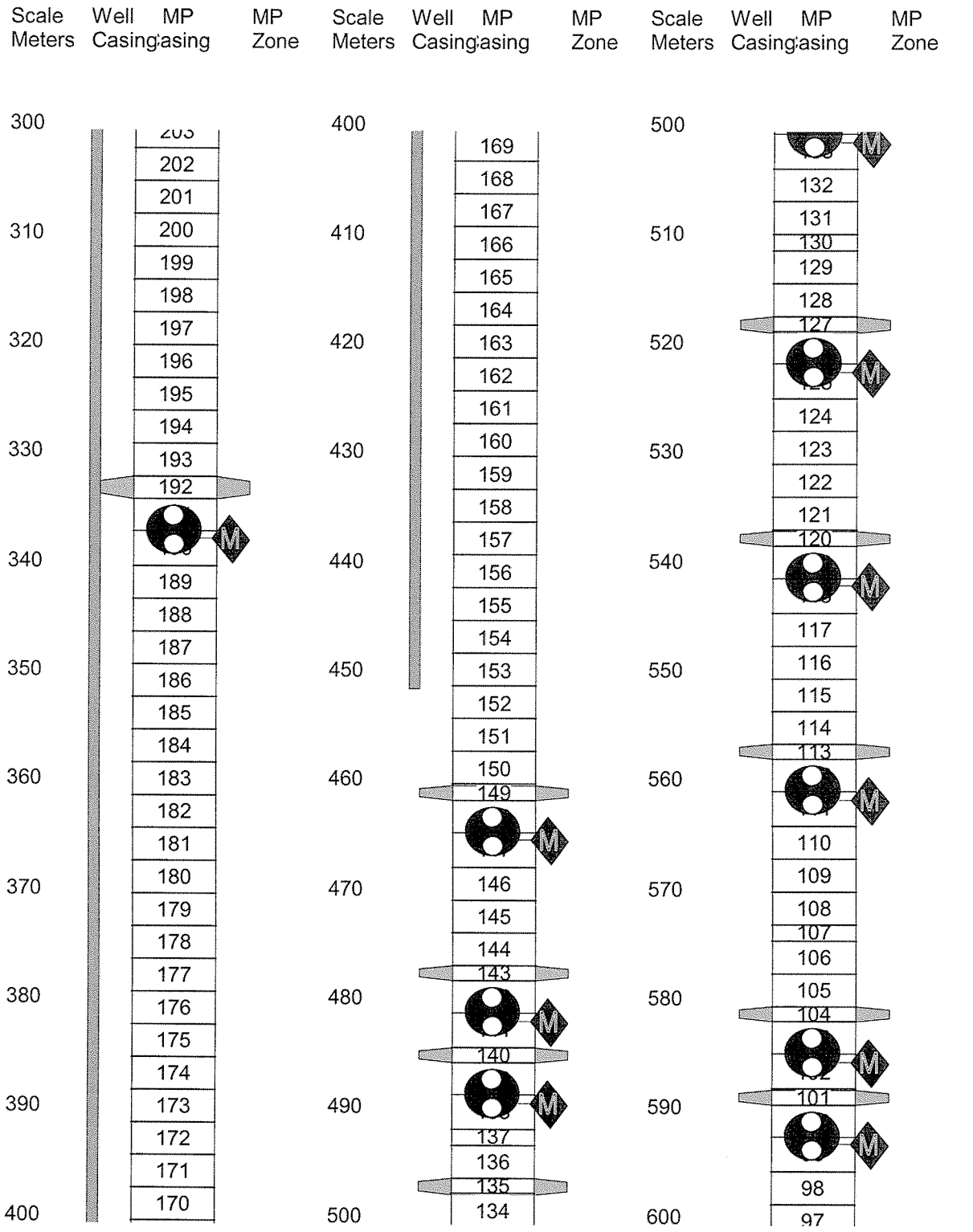
Summary Casing Log
Intera

Job No: WB860
Well: DGR-2



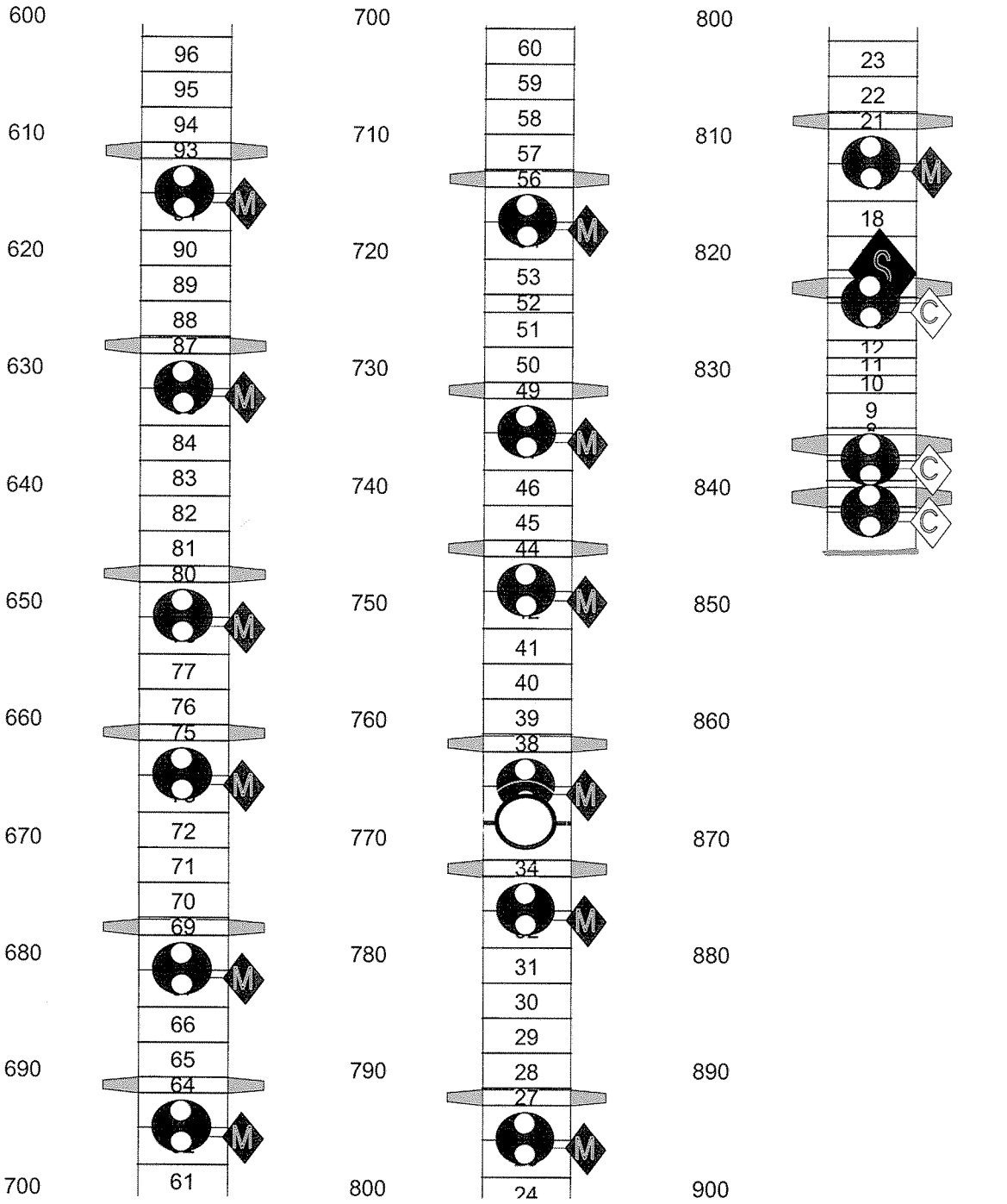
Summary Casing Log
Intera

Job No: WB860
Well: DGR-2



Summary Casing Log
Intera

Job No: WB860
Well: DGR-2



Casing Installation Log

Company: Intera
Well: DGR-2 - DRAFT 2
Site: Kincardine, ON
Project: Bruce Site Investigation

Job No: WB860
Author: DL

Well Information

Reference Datum: Ground Level
Elevation of Datum: 0.00 m.
MP Casing Top: 0.00 m.
MP Casing Length: 844.72 m.

Borehole Depth: 850.00 m.
Borehole Inclination: Vertical
Borehole Diameter: 159.00 mm

Well Description:
Plastic MP55 with SS MP55 bottom
Other References:
SS MP55 Starts at 826m depth
Surface Casing to 451m
Bridge Plug at 836m

File Information

File Name: DGR2_D2.WWD
Report Date: Tue Nov 20 17:42:29 2007

File Date: Nov 16 11:11:18 2007

Comments

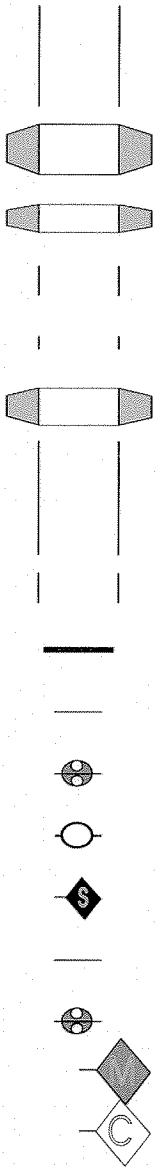
Log Information

Borehole condition confirmed.	(method)	Date:
MP well design & preparation.	By:	Date: Nov 19/20
MP well design checked.	By:	Date: Nov 19/20
MP well and borehole approved to install.	By:	Date: Nov 25/07

Legend

(Qty) MP Components

(Library - WD Library 7/27/00)



(259) 060130 - MP55 Casing 1 (3M/10F)

(3) 0618 - MP 55 GeoPro Packer 125mm

(22) 0612 - MP55 Packer 110mm

(4) 060115 - MP55 Casing 2 (1.5M/5F)

(6) 0401M05 - SS MP55 Steel Casing, 0.5m

(3) 0418 - SS 55 GeoPro Packer 125mm

(3) 0401M30 - SS MP55 Steel Casing, 3m

(4) 0401M15 - SS MP55 Steel Casing, 1.5m

(1) 0403 - SS MP55 End Plug

(262) 0602 - MP55 Regular Coupling

(25) 0605 - MP55 Measurement Port

(1) 0632 - MP55 Hydraulic Pumping Port

(1) 0415 - SS MP55 Adapter Coupling

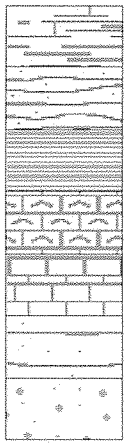
(9) 0402 - SS MP55 Regular Coupling

(3) 0404 - SS MP55 Measurement Port

(25) 0608 - MP55 Magnetic Location Collar

(3) 0408 - SS MP55 Magnetic Collar

Geology



Shale, Calcareous

Shale, Sandy

Shale

Limestone, Shaly

Limestaone Bedded

Sandstone, Shaly

Sandstone, Coarse

Backfill/Casing

Mild Steel

Casing Installation Log
Intera

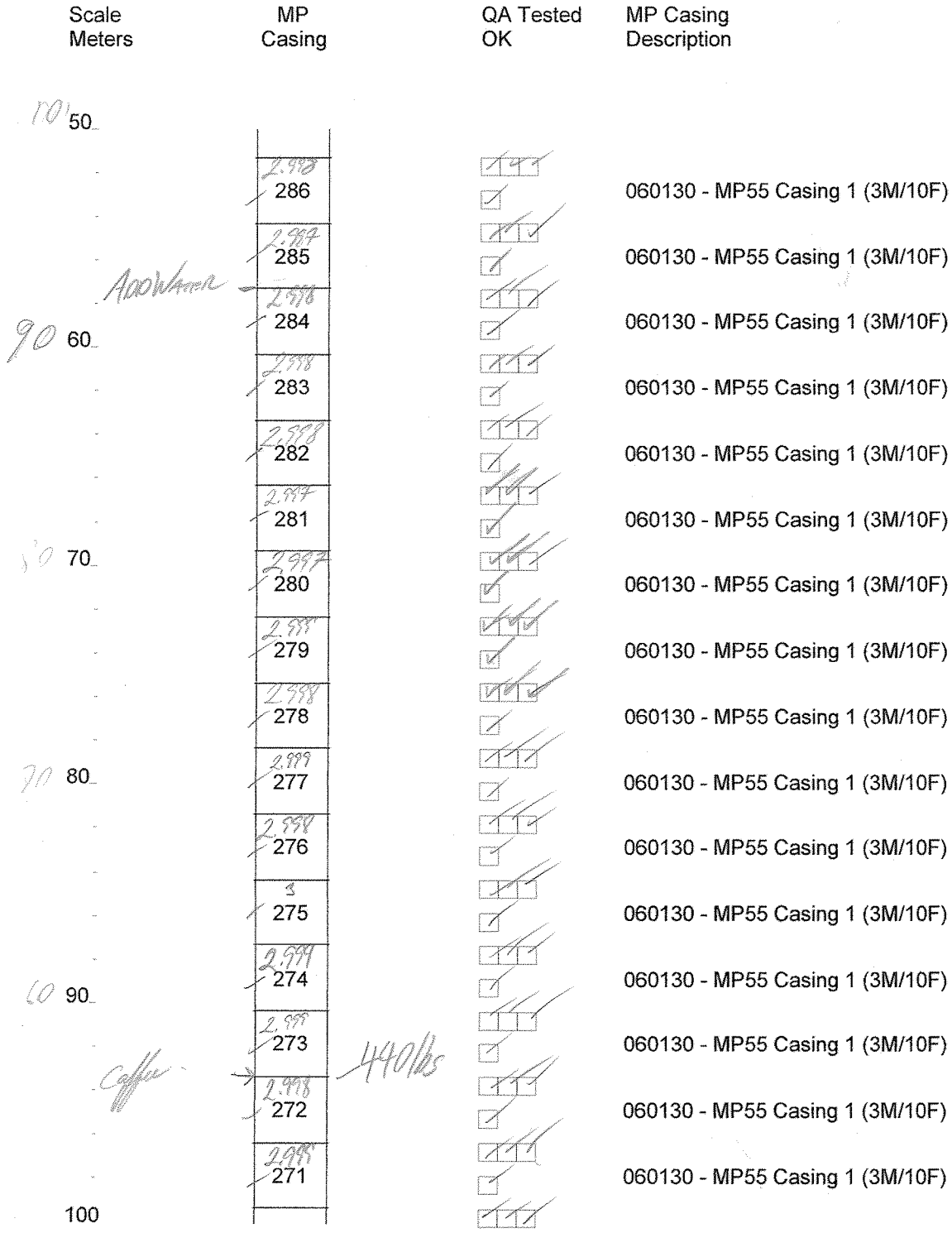
Job No: WB860
Well: DGR-2 - DRAFT 2

OTW = 0.748m @ 8:02
OTW = 0.743m @ 8:28
OTW = 0.742m @ 8:32

Scale Meters	MP Casing	QA Tested OK	MP Casing Description
0	304		STAINLESS STEEL 3m/CUT
	303		060130 - MP55 Casing 1 (3M/10F)
	302		060130 - MP55 Casing 1 (3M/10F)
	301		060130 - MP55 Casing 1 (3M/10F)
10	300		060130 - MP55 Casing 1 (3M/10F)
	299		060130 - MP55 Casing 1 (3M/10F)
	298		060130 - MP55 Casing 1 (3M/10F)
20	297		060130 - MP55 Casing 1 (3M/10F)
	296		060130 - MP55 Casing 1 (3M/10F)
	295		060130 - MP55 Casing 1 (3M/10F)
30	294		060130 - MP55 Casing 1 (3M/10F)
	293		060130 - MP55 Casing 1 (3M/10F)
	292		060130 - MP55 Casing 1 (3M/10F)
	291		060130 - MP55 Casing 1 (3M/10F)
40	290		060130 - MP55 Casing 1 (3M/10F)
	289		060130 - MP55 Casing 1 (3M/10F)
	288		060130 - MP55 Casing 1 (3M/10F)
50	287		060130 - MP55 Casing 1 (3M/10F)

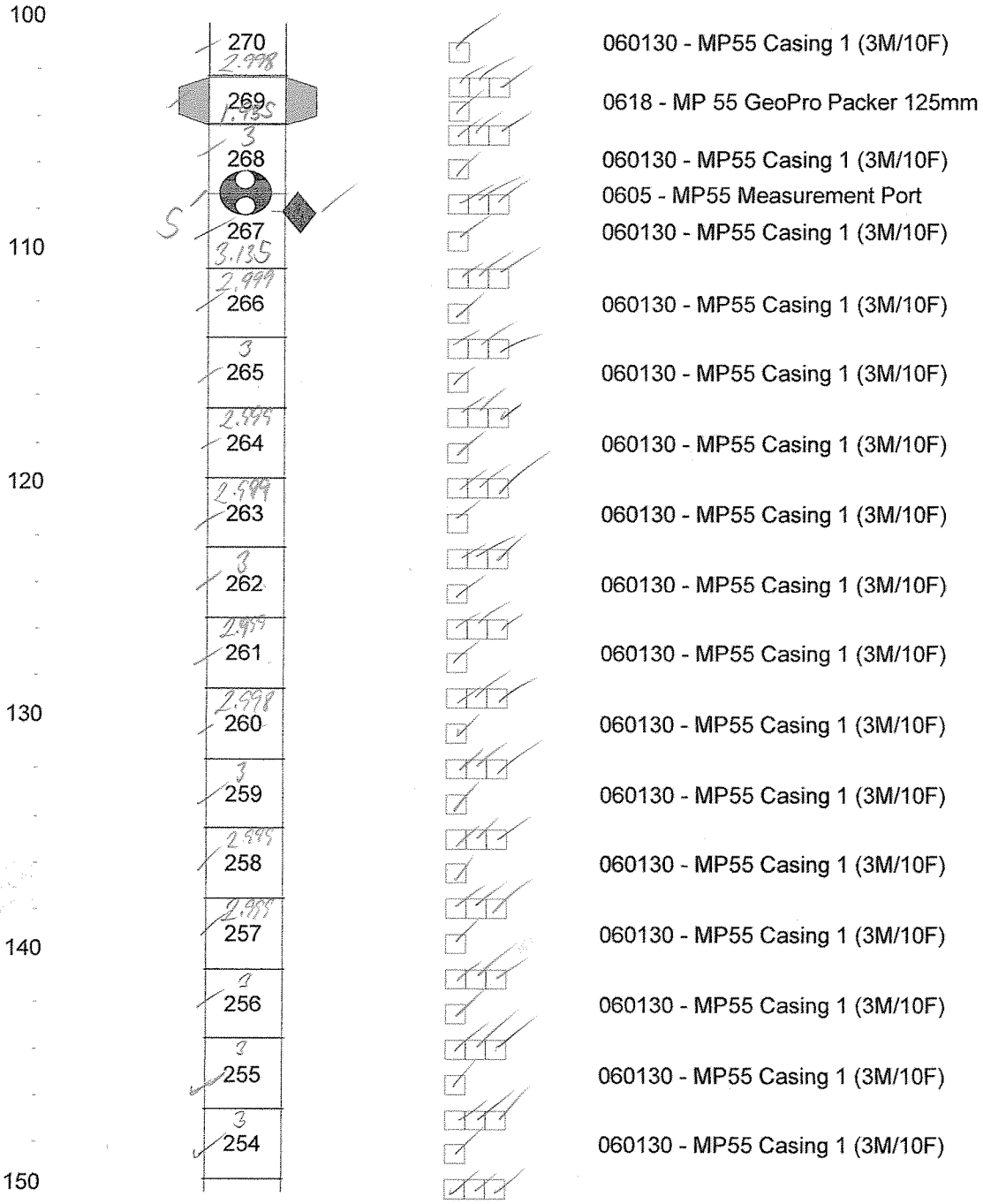
Casing Installation Log
Intera

Job No: WB860
Well: DGR-2 - DRAFT 2



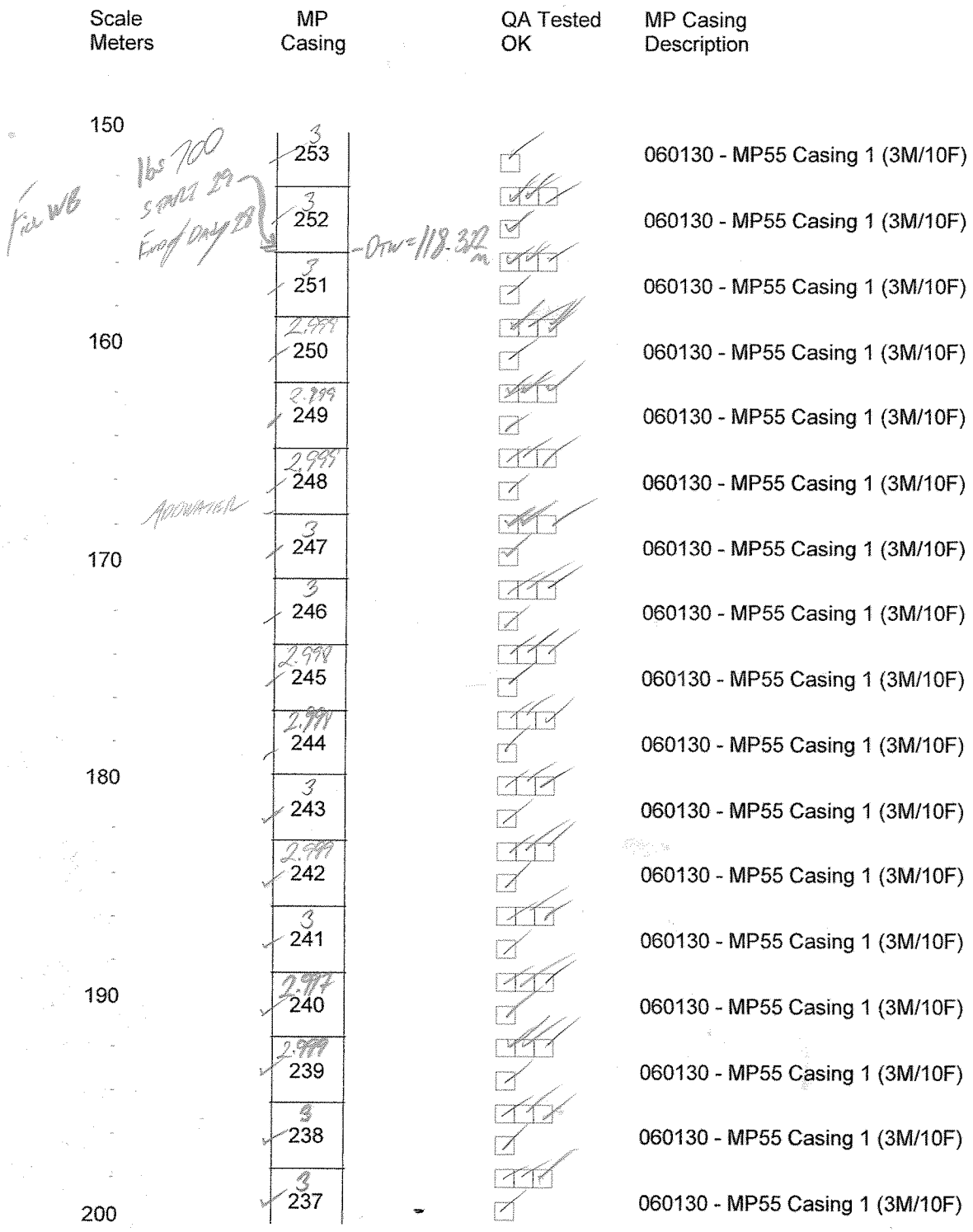
Casing Installation Log
Intera

Job No: WB860
Well: DGR-2 - DRAFT 2



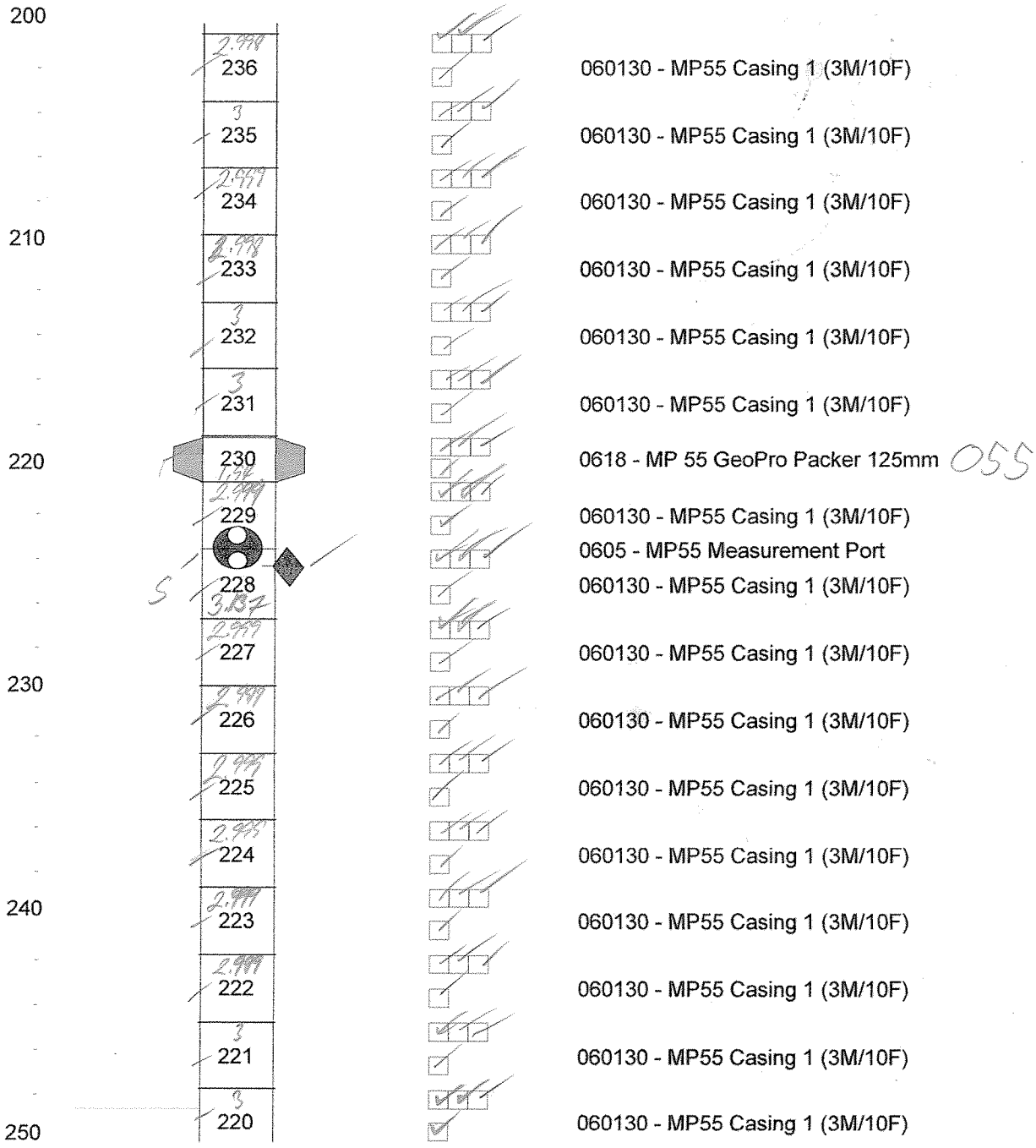
Casing Installation Log
Intera

Job No: WB860
Well: DGR-2 - DRAFT 2



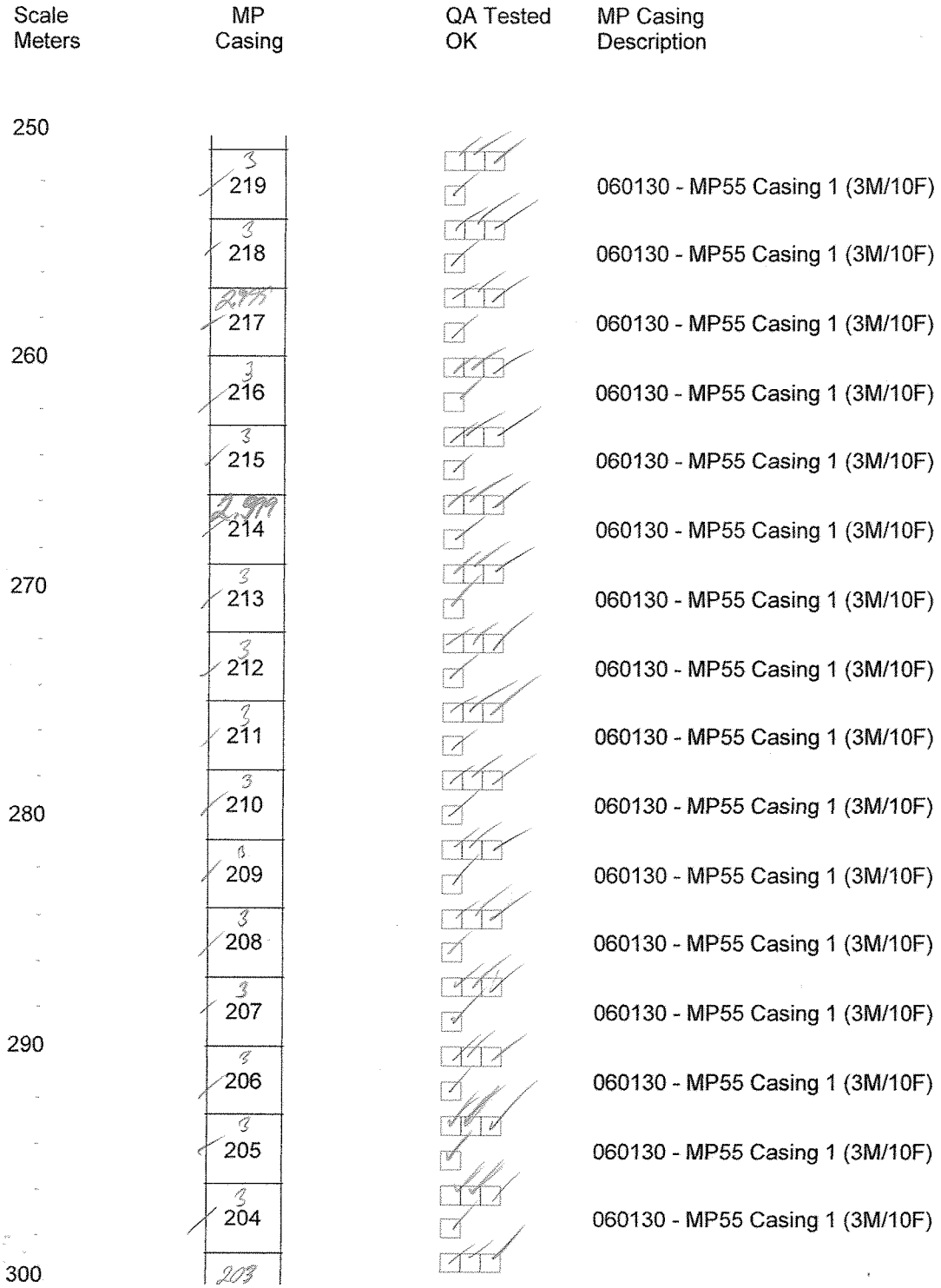
Casing Installation Log
Intera

Job No: WB860
Well: DGR-2 - DRAFT 2



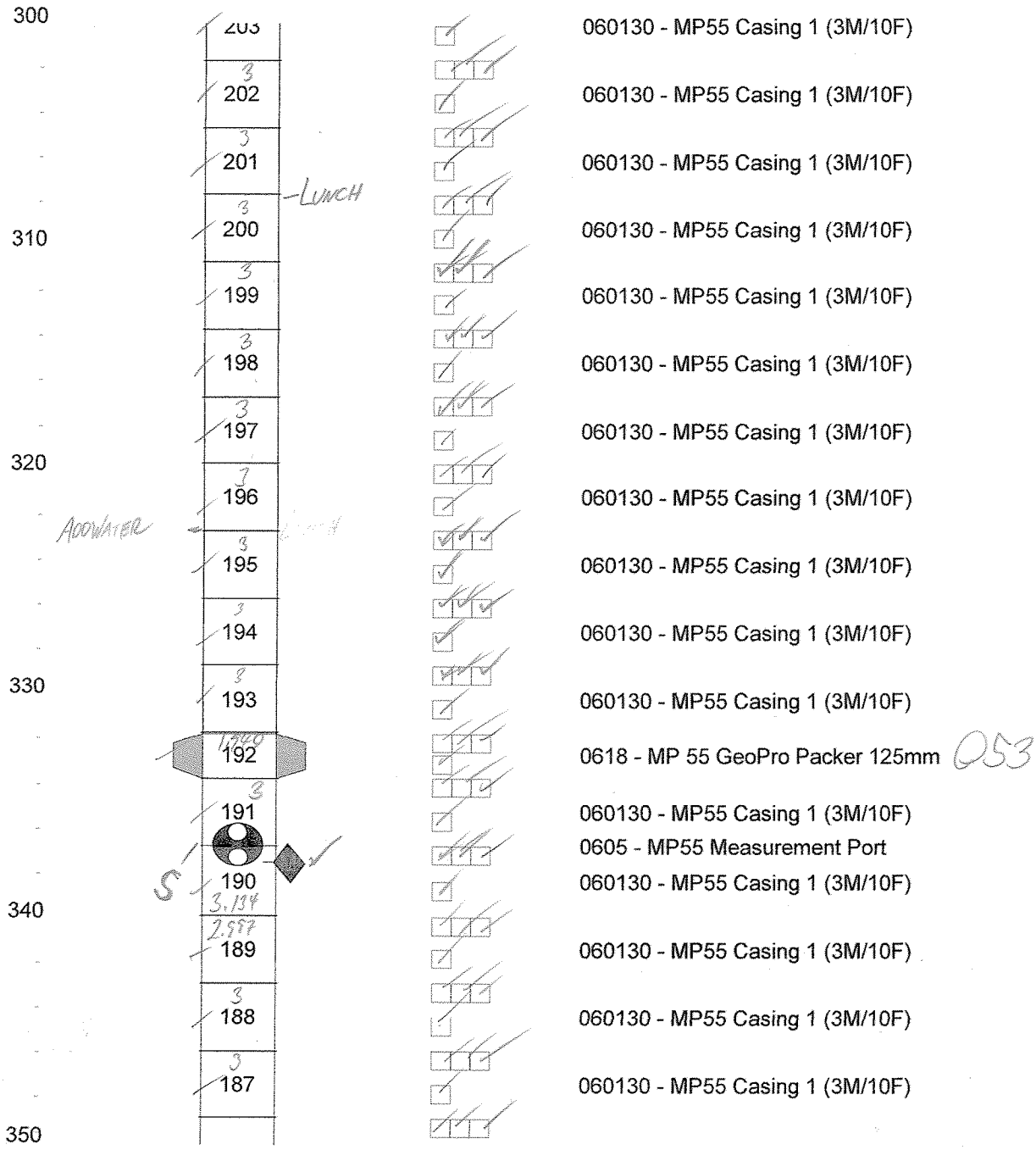
Casing Installation Log
Intera

Job No: WB860
Well: DGR-2 - DRAFT 2



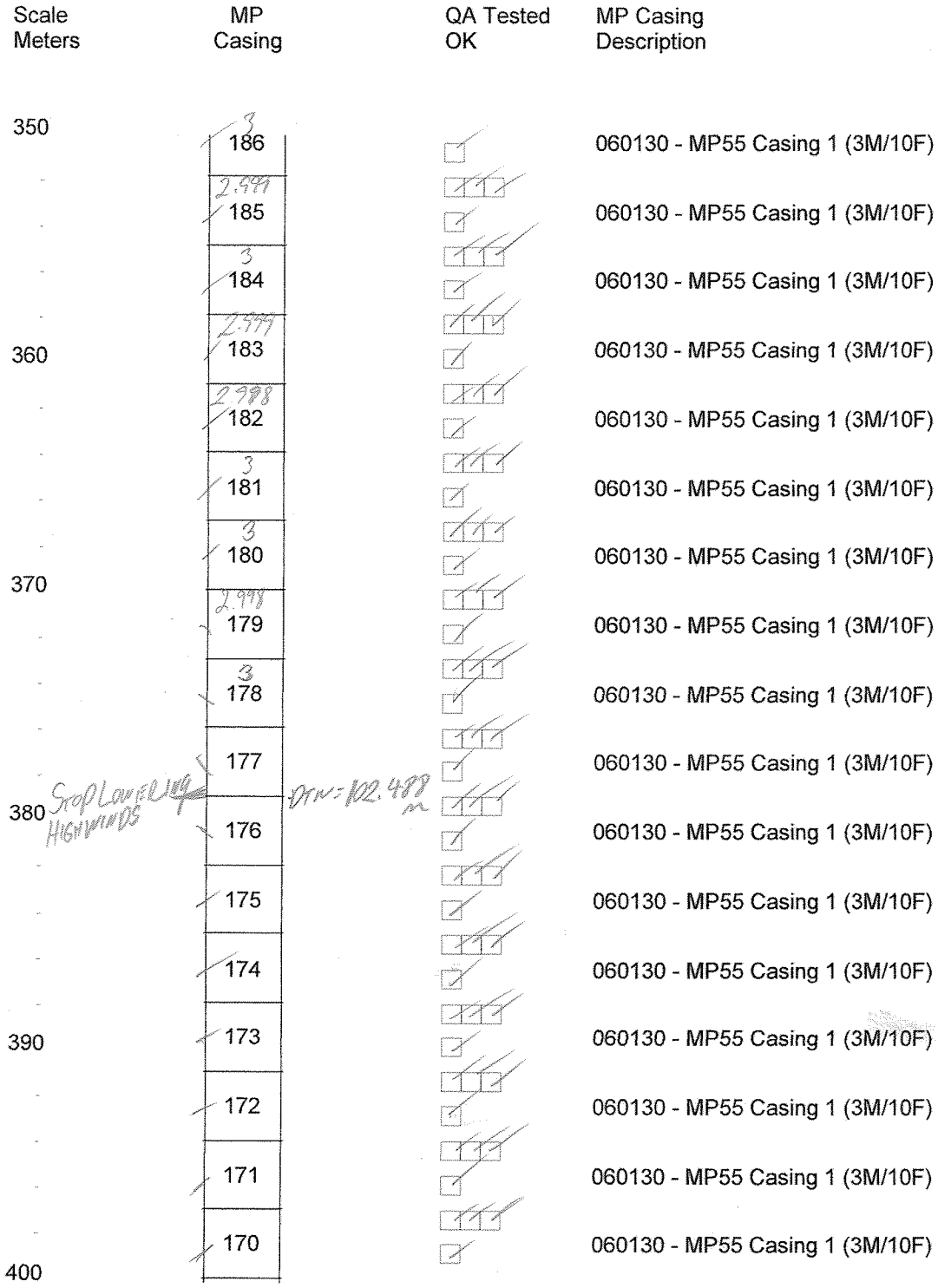
Casing Installation Log
Intera

Job No: WB860
Well: DGR-2 - DRAFT 2



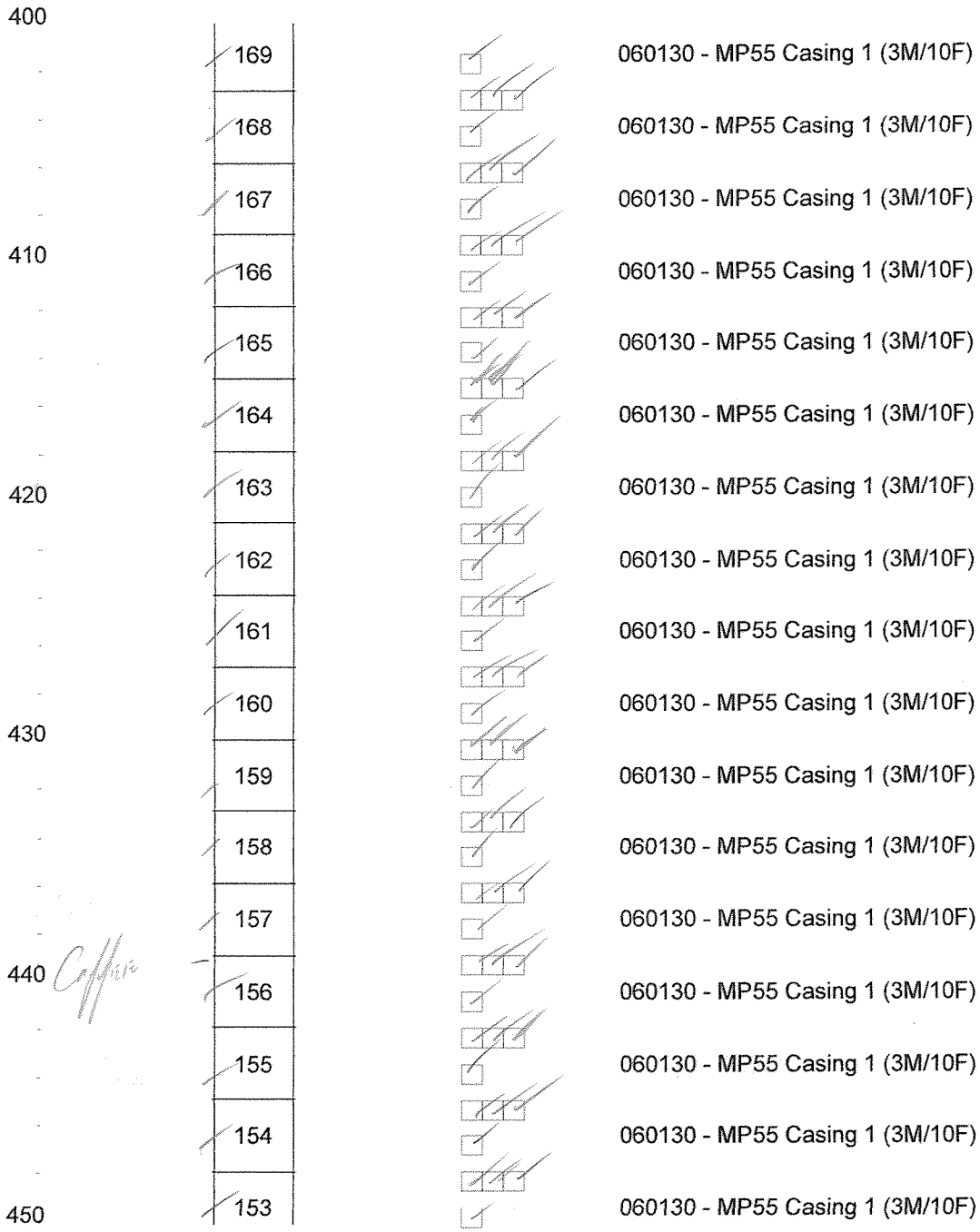
Casing Installation Log
Intera

Job No: WB860
Well: DGR-2 - DRAFT 2



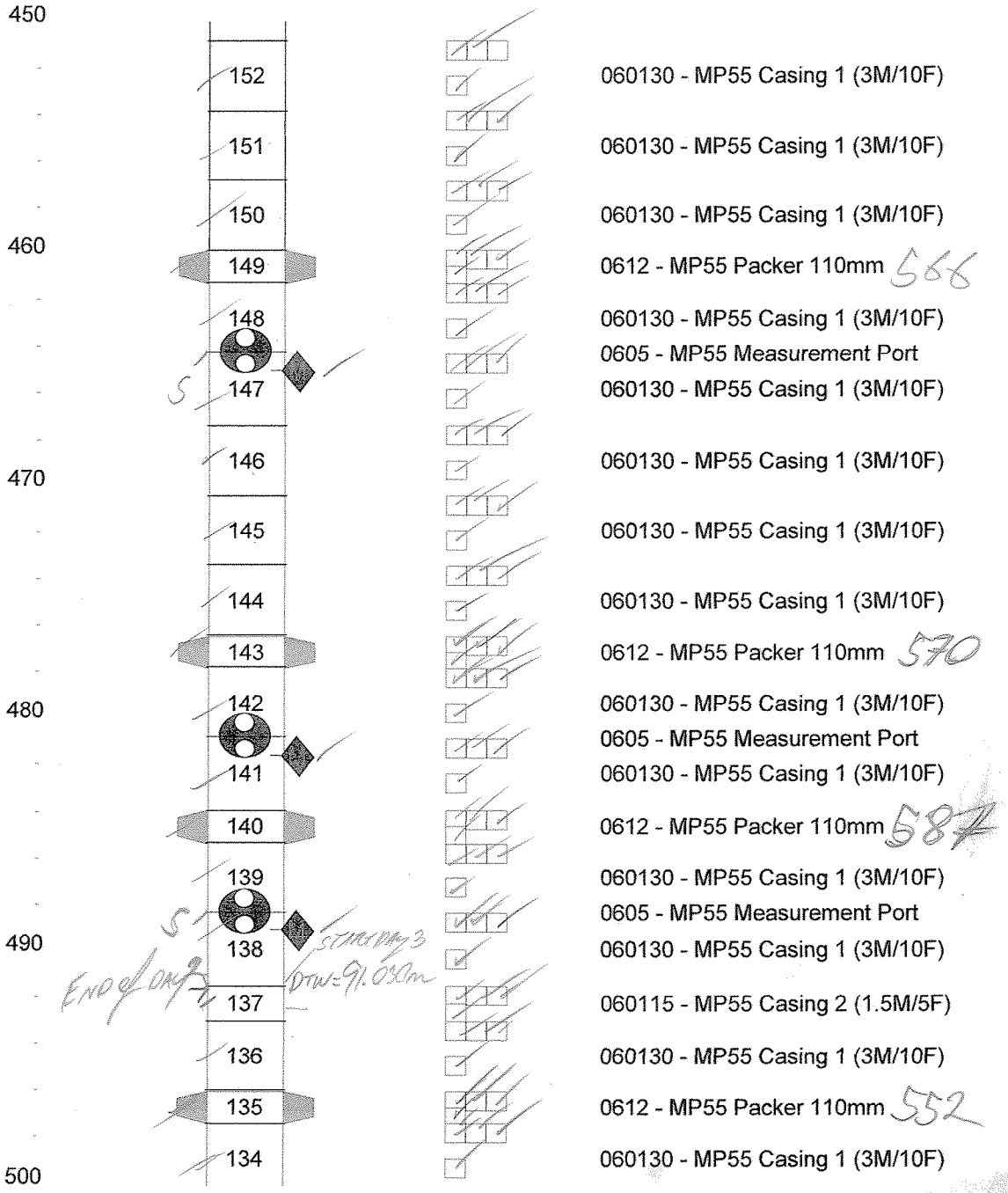
Casing Installation Log
Intera

Job No: WB860
Well: DGR-2 - DRAFT 2



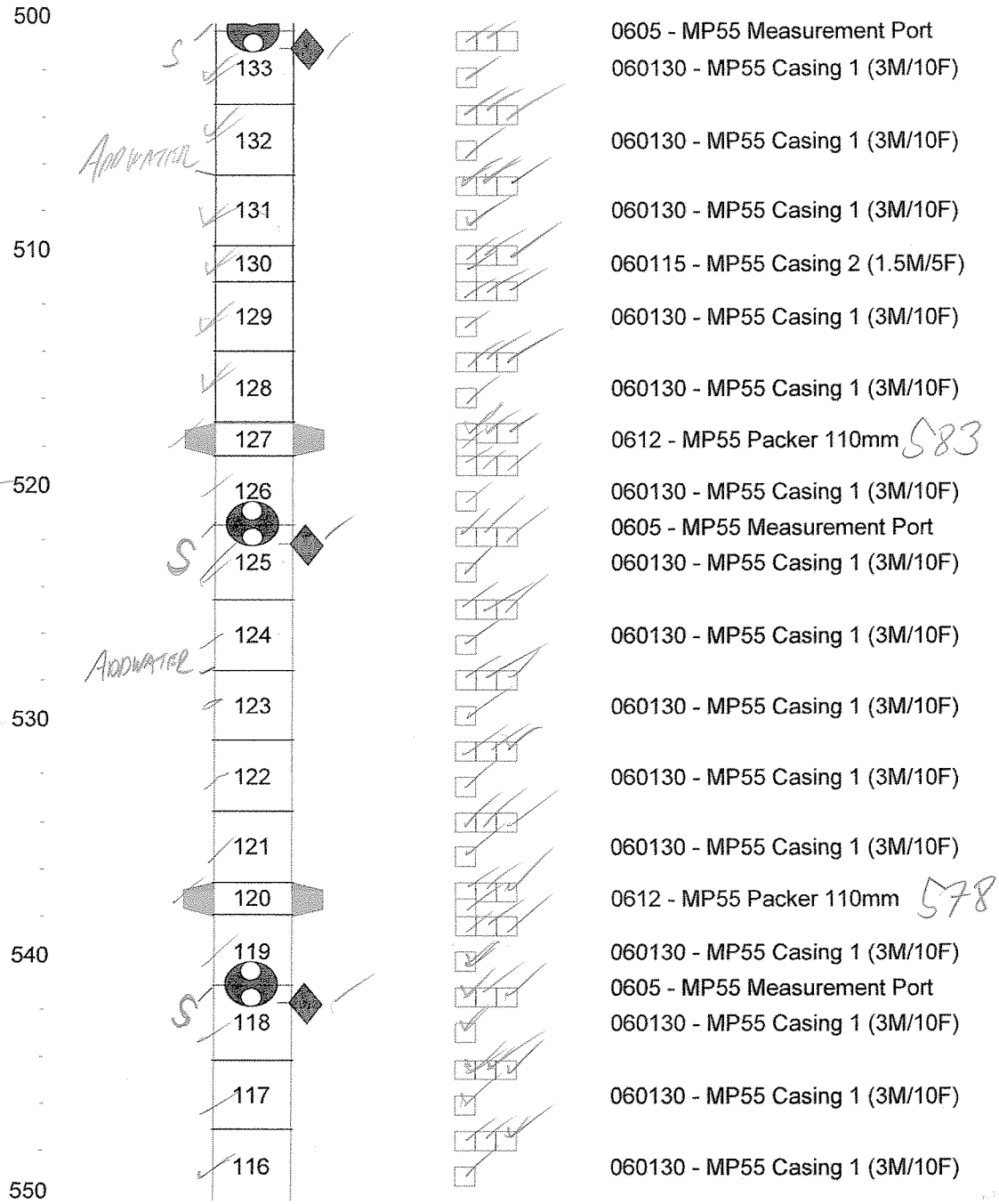
Casing Installation Log
Intera

Job No: WB860
Well: DGR-2 - DRAFT 2



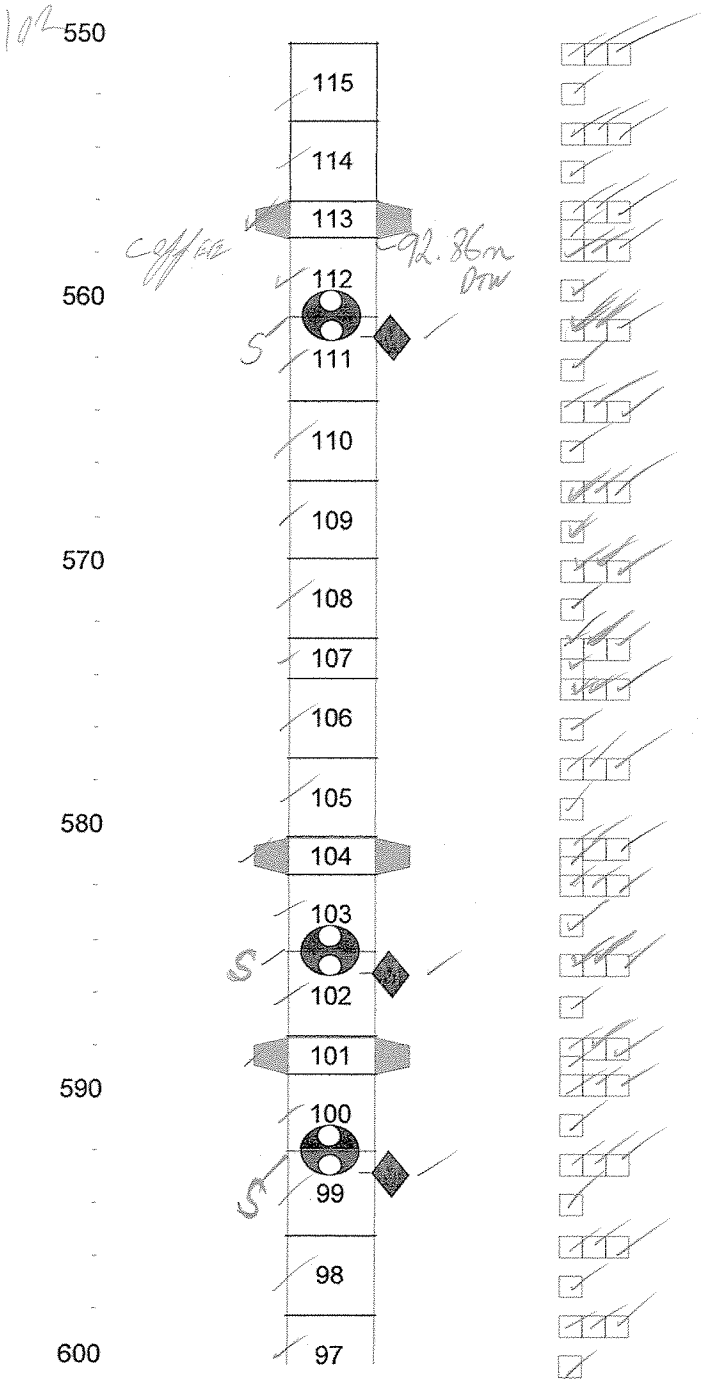
Casing Installation Log
Intera

Job No: WB860
Well: DGR-2 - DRAFT 2



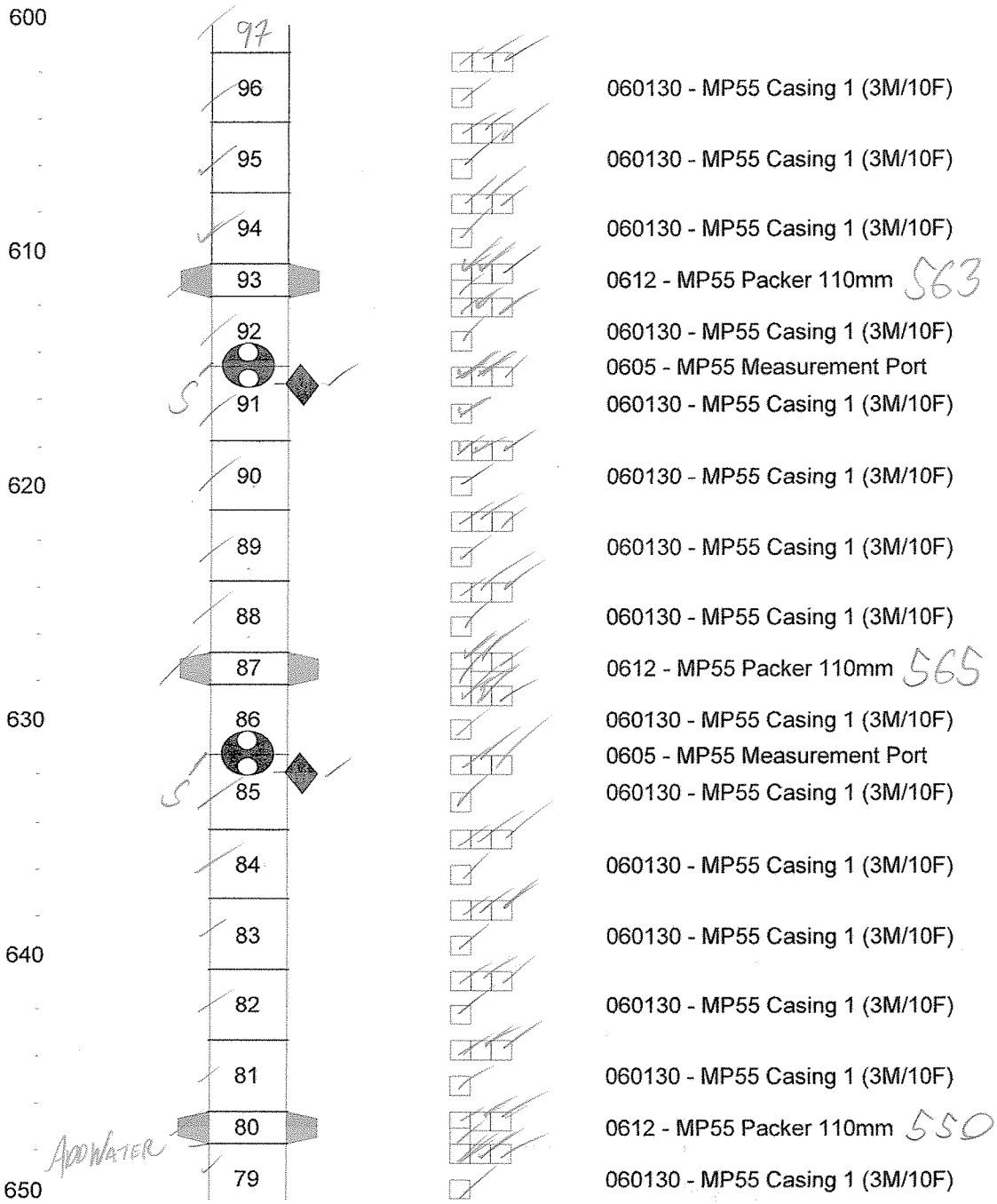
Casing Installation Log
Intera

Job No: WB860
Well: DGR-2 - DRAFT 2



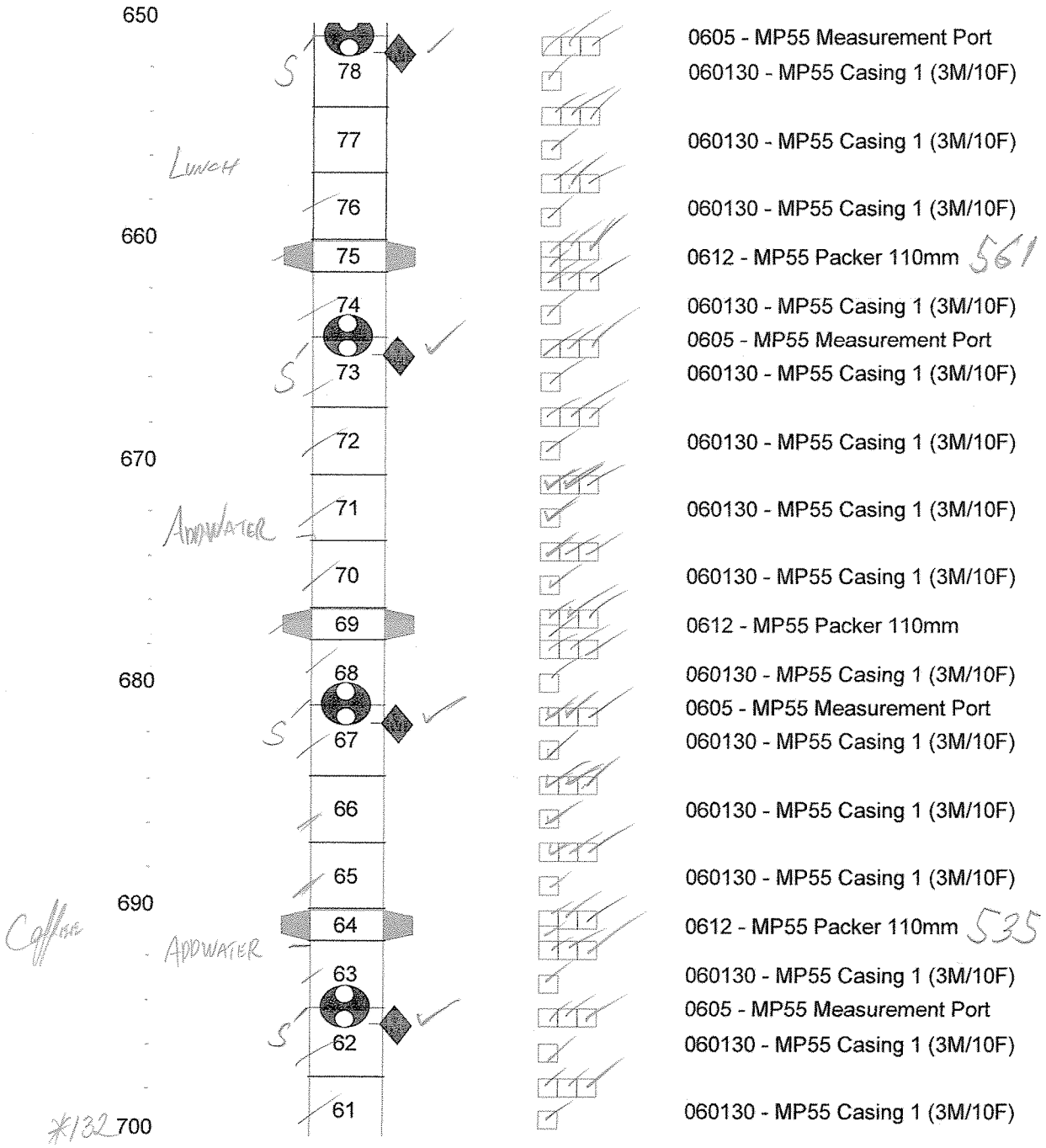
Casing Installation Log
Intera

Job No: WB860
Well: DGR-2 - DRAFT 2



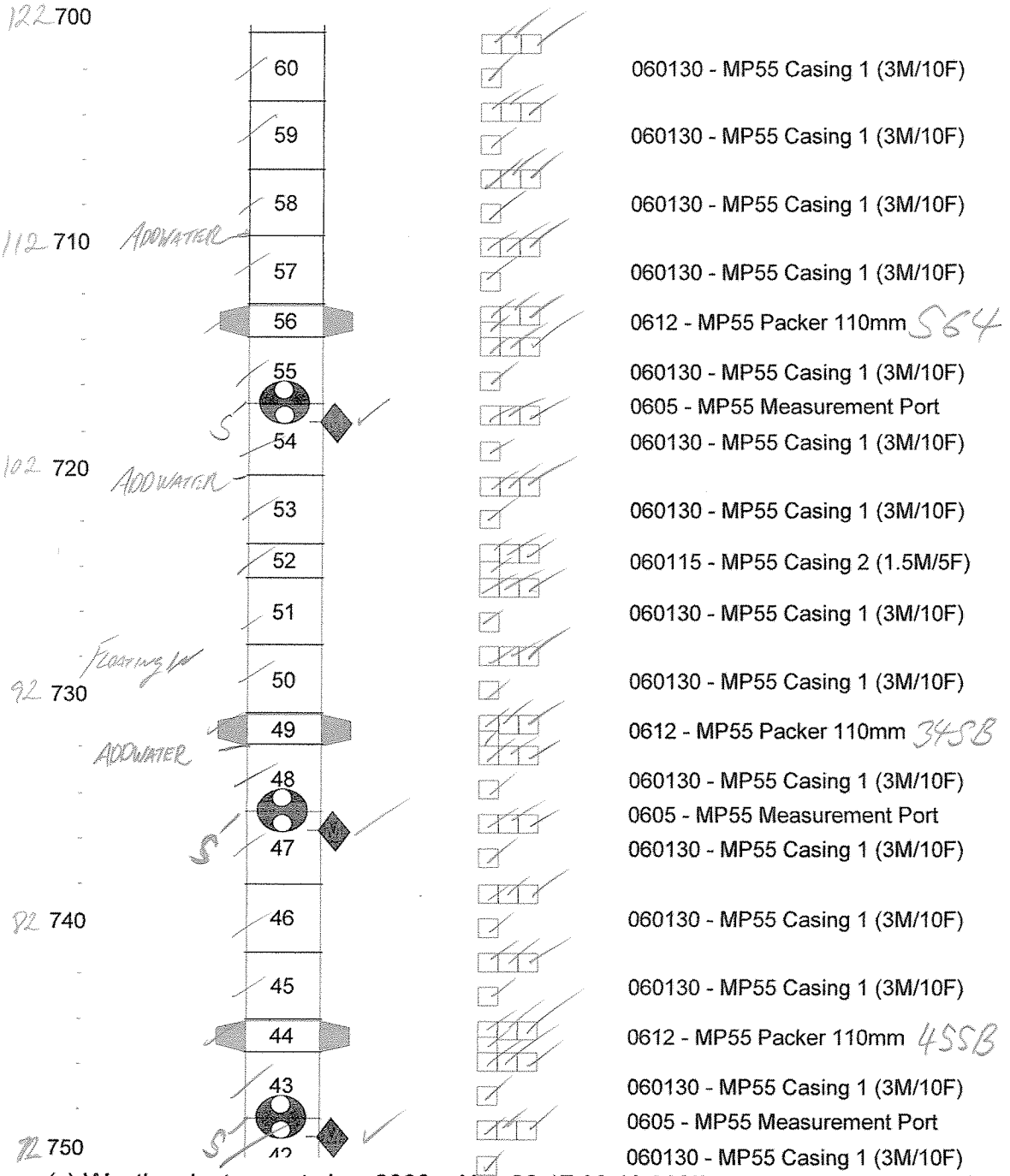
Casing Installation Log
Intera

Job No: WB860
Well: DGR-2 - DRAFT 2



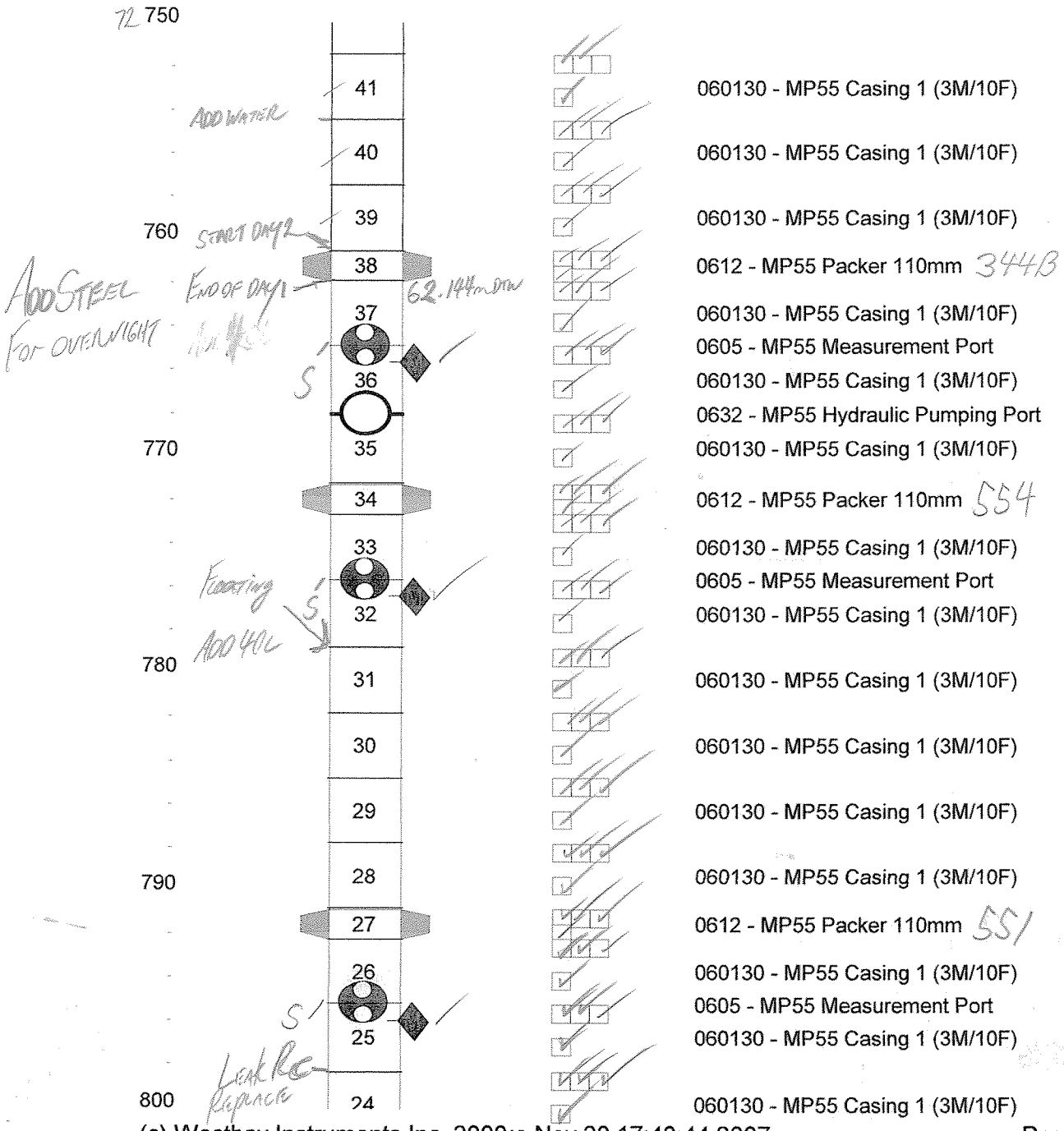
Casing Installation Log
Intera

Job No: WB860
Well: DGR-2 - DRAFT 2



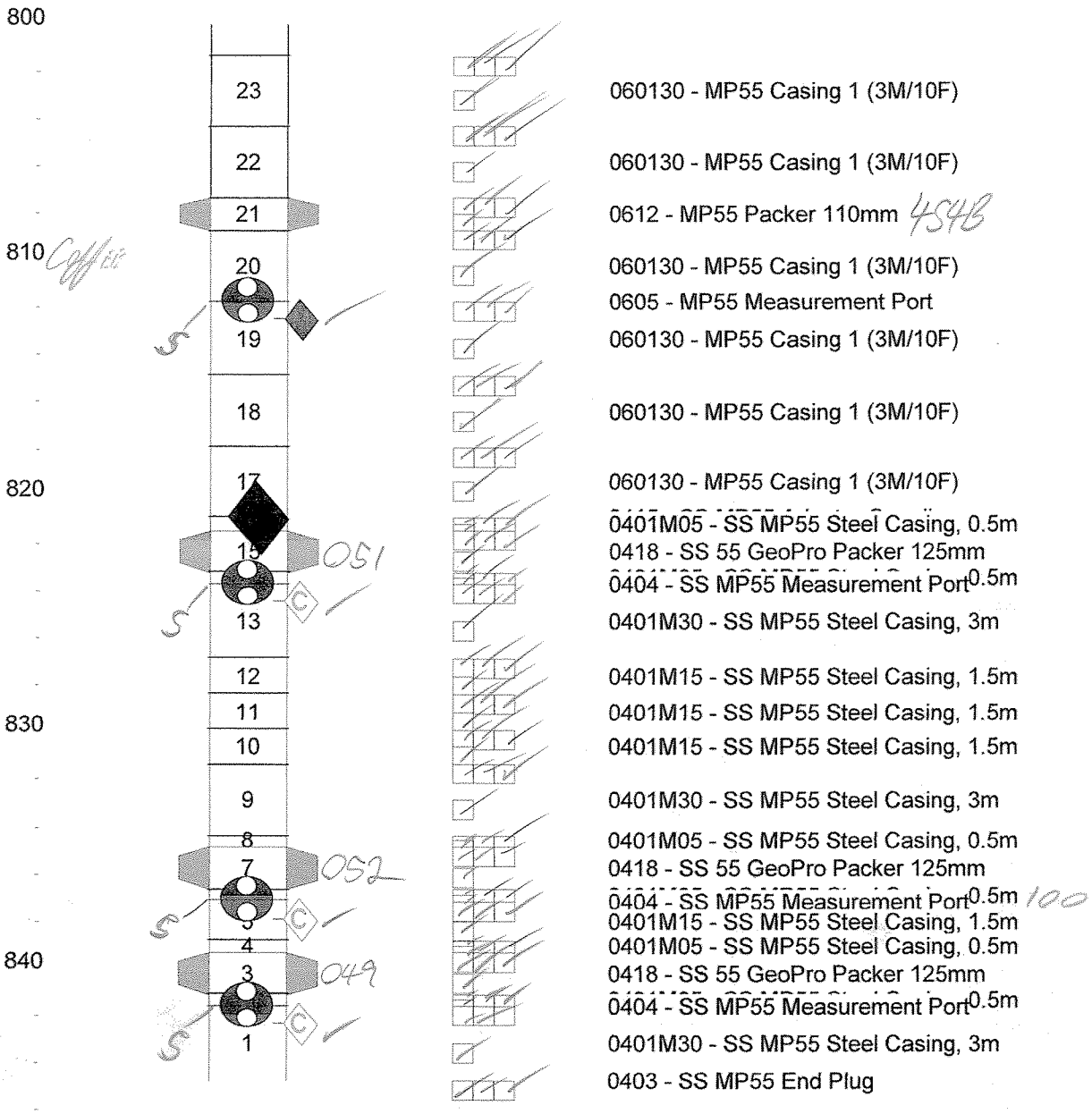
Casing Installation Log
Intera

Job No: WB860
Well: DGR-2 - DRAFT 2



Casing Installation Log
Intera

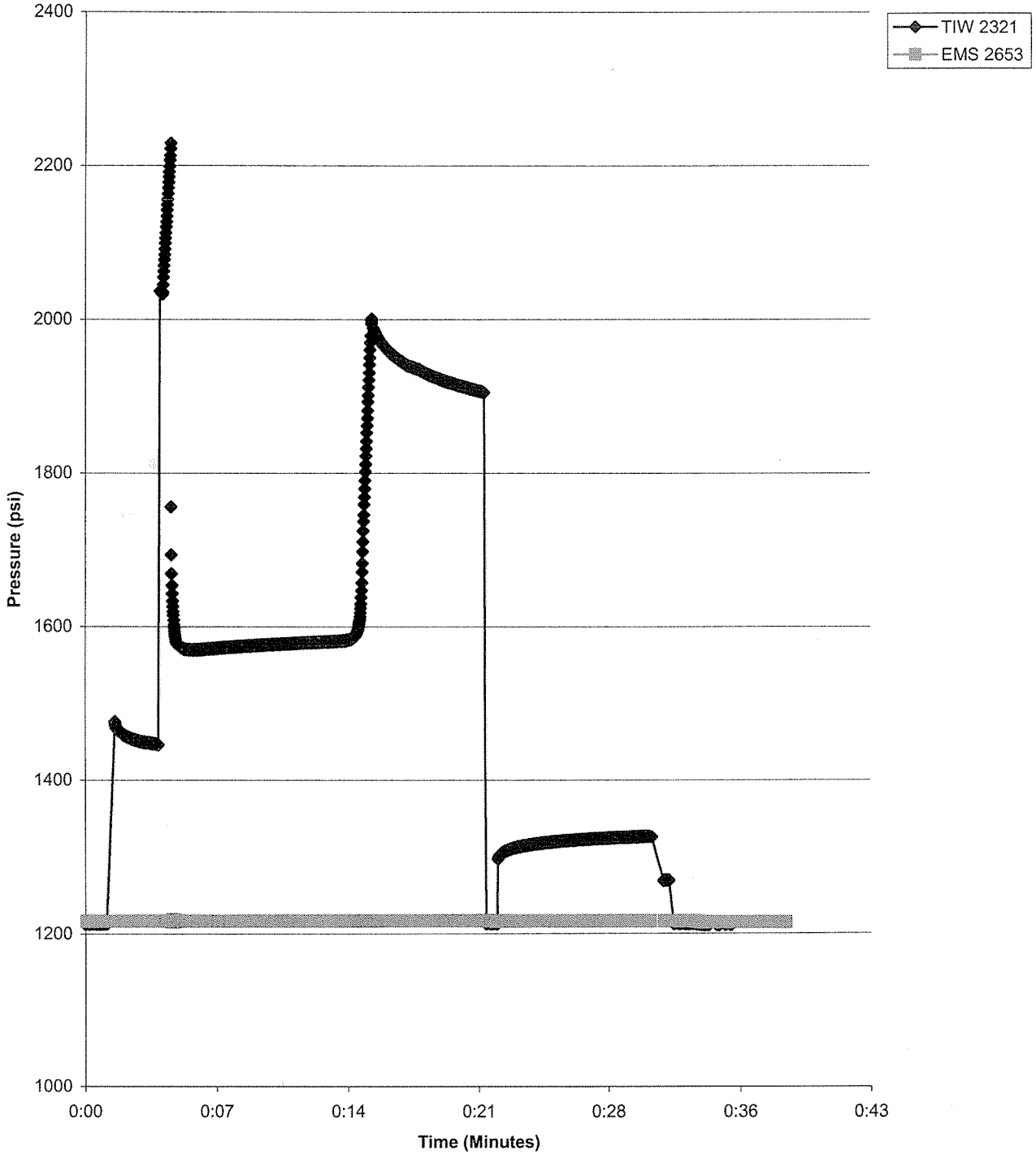
Job No: WB860
Well: DGR-2 - DRAFT 2



MP 55 Packer Inflation Record

Company: Westbay Instruments Inc.
Site:Bruce, Ont
Description: Packer 1
Well:DGR-2
WB: 860
Comment: 0418

Packer: 0418-049
Packer Depth:839.0 m



Plot By:_____

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MP55 Packer Inflation Field Record

Project:__**WB 860**__	Client: **OPG**	By:_Andrew Bessant_	Date: —
Location:_**Bruce**	Well No._**DGR-2**	Borehole Diameter: —	
Packer No. 1	Depth: —	Computer Data File: — .WDF	
Inf-Tool No. —	Vent Tool No. —	Volume Pumped:_______	Vol Returned_____
H-B Valve: (P_H) —	Offset (P_V). —	Confirm Venting (Vent Tool Data) (Y/N) _____	
Vent Tool Pressure (Shoe Out, P_O) 1546		Final Inf'n Vol:_______	Final Press:__ __(P_F)
Comments:		Calc'd Element Pressure (P_F +P_V- P_O)_________	
		Confirm Pkr Valve Closed (Yes/No): —	

1900

Pumping Information

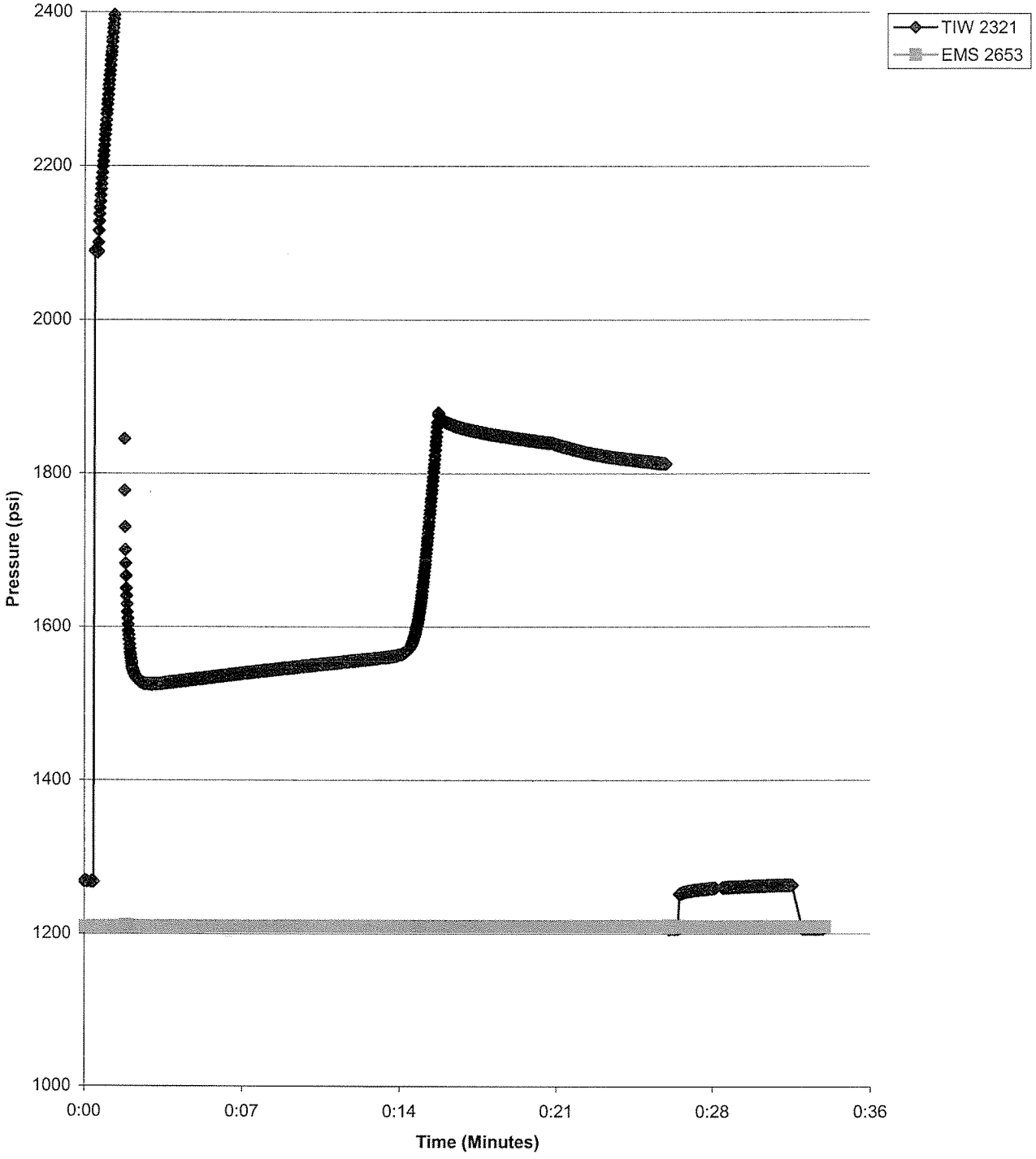
I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
0	0	121[illegible]	1215.59	6:20pm		[illegible] TOOL
0	0	[illegible]	1546.7			[illegible] SHO
		1395	1546.78	6:22pm		TIK SHO [illegible] 23
1	800	1237	1546			PUMP TO 800
		1500	1546	6:23pm		TIK I [illegible]
2	400	1483	1546	6:26pm		
3	11	1480	1546	6:27pm		
4	11	1474	1546.9	6:30pm		
5						[illegible] NOT [illegible]
6						SHOE IN / [illegible]
		1212.6	1547.03			SHOE OUT
		1700	1546			
1	800					PUMP TO 800
						TIK I
3	600	1574	1216.4	6:56pm		
4	600	1575	1216.4	6:57pm		
5	600	1577	11	6:58pm		
6	600	1579	11	7:00pm		
7	600	1581	11	7:01pm		
8	600	1980	11	7:03pm		TIK 9 / [illegible]
						10 QA

MP 55 Packer Inflation Record

Company: Westbay Instruments Inc.
Site:Bruce, Ont
Description: Packer 2
Well:DGR-2
WB: 860
Comment: 0418

Packer: 0418-052
Packer Depth:834.6 m



Plot By:_____

1/10/2008

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MP55 Packer Inflation Field Record

Project: **WB 860** Client: **OPG**	By: Andrew Bessant Date: —
Location: **Bruce** Well No. **DGR-2**	Borehole Diameter: —
Packer No. 2 Depth: —	Computer Data File: — .WDF
Inf-Tool No. — Vent Tool No. —	Volume Pumped: 8.50 Vol Returned 1.00
H-B Valve: (P_H) — Offset (P_V). —	Confirm Venting (Vent Tool Data) (Y/N) N
Vent Tool Pressure (Shoe Out, P_O) 1209	Final Inf'n Vol: 7.5 Final Press: 1812 (P_F)
Comments:	Calc'd Element Pressure ($P_F + P_V - P_O$) 600
	Confirm Pkr Valve Closed (Yes/No): —

1420 1750

Pumping Information

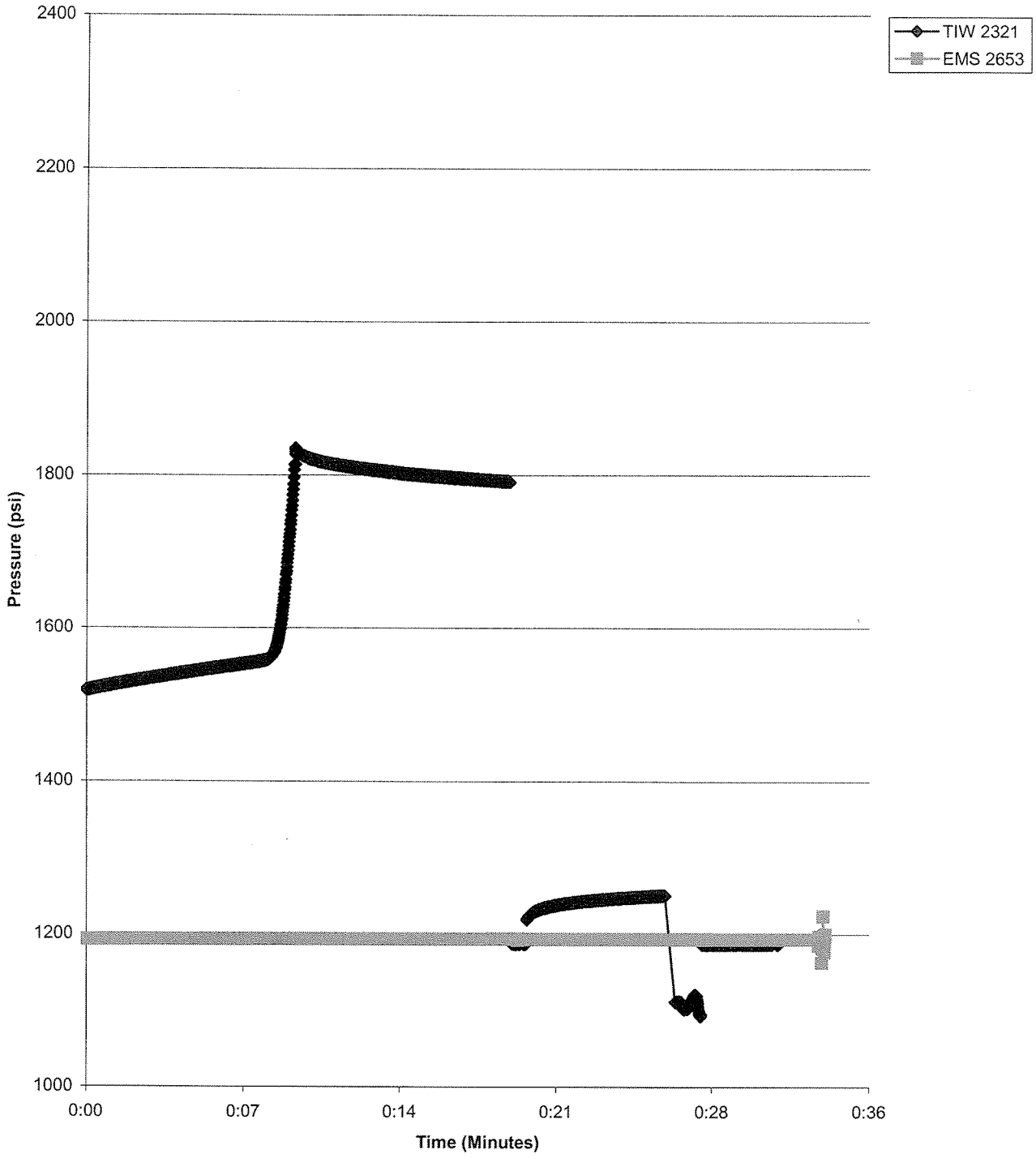
I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
0	0	1206	1209	7:38		
		1206	1539.6			EMS ON
		1280	1539.2	7:40pm		TIE ON
	200					pump 200
						P
2		1525	1209.4			Vent tool not working
3		1531	"	10:16am		
4		1508	"	10:18am		
5		1546	"	10:20am		
6		1551	"	10:22am		
7		1559	"	10:24am		
7.5		1565	"	10:25am		
8		1672	"			
8.25	500	1776	"	10:27		Pump over / tie off
		1818	"	10:35		QA
8.50	900	1812.9	"	10:37		Pump 700 900
		1207.9	"	10:37		TIE CLOSE
7.50	0					Vent Line
		1233.9	"	10:38		TIE O
		1257.3	"	10:39		QA
		1262.15	"	10:42		
						EMS SHOEIN
		1207.2	1209.07	10:43am		Tie SHOEIN Suction

MP 55 Packer Inflation Record

Company: Westbay Instruments Inc.
Site:Bruce, Ont
Description: Packer 3
Well:DGR-2
WB: 860
Comment: 0418

Packer: 0418-051
Packer Depth:821.2 m



Plot By:_____

1/4/2008

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MP55 Packer Inflation Field Record

Project: **WB 860** Client: **OPG**	By: Andrew Bessant Date: ~
Location: **Bruce** Well No. **DGR-2**	Borehole Diameter: ~
Packer No. 3 Depth: ~	Computer Data File: ~ .WDF
Inf-Tool No. _____ Vent Tool No. _____	Volume Pumped: 9 Vol Returned 1.25
H-B Valve: (P_H) _____ Offset (P_V). _____	Confirm Venting (Vent Tool Data) (Y/N) Y
Vent Tool Pressure (Shoe Out, P_O) 1152	Final Inf'n Vol: 7.75 Final Press: 1200 (P_F)
Comments: No Vent Tool	Calc'd Element Pressure ($P_F + P_V - P_O$) 600
	Confirm Pkr Valve Closed (Yes/No): ~

1700

Pumping Information

I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
0	0	1186.90	1152.57	4:28		Tie Vent out
0	0	1532	1152.21	4:29		Tie Shoe out
1.20	100	1448	"			Pump to 1000
						Tie I
						pump on
2	500	1514	"	4:33		
3	"	1525	"	4:35		
4	"	1532	"	4:36		
5	"	1541	"	4:38		
6	550	1546	1193.56	4:39		
7	600	1553	"	4:41		
8	"	1578	"	4:42		
8.5	700	1813	"	4:43		Pump off / Tie off
	"	1800	1193.8	4:49		QA 10min
9	1000	1792	"	4:53		Pump to 1000
						Tie C
7.75	0					Vent Line
		1223	1193.8	4:54		Tie O
		1249	"	4:59		QA 5min
		1187.67	1153.90	5:02		Shoe 19 Ran

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MP55 Packer Inflation Field Record

Project:__WB 860__	Client: OPG	By:_Andrew Bessant_	Date:______________
Location:_Bruce	Well No._DGR-2	Borehole Diameter:______________	
Packer No.___3___	Depth:______________	Computer Data File:______________.WDF	
Inf-Tool No.________	Vent Tool No.________	Volume Pumped:_______	Vol Returned_____
H-B Valve: (P_H) _______	Offset (P_V). __________	Confirm Venting (Vent Tool Data) (Y/N) _____	
Vent Tool Pressure (Shoe Out, P_O) __________		Final Inf'n Vol:_______	Final Press:__ __(P_F)
Comments:______________________________		Calc'd Element Pressure (P_F +P_V- P_O)__________	
		Confirm Pkr Valve Closed (Yes/No): __________	

Pumping Information

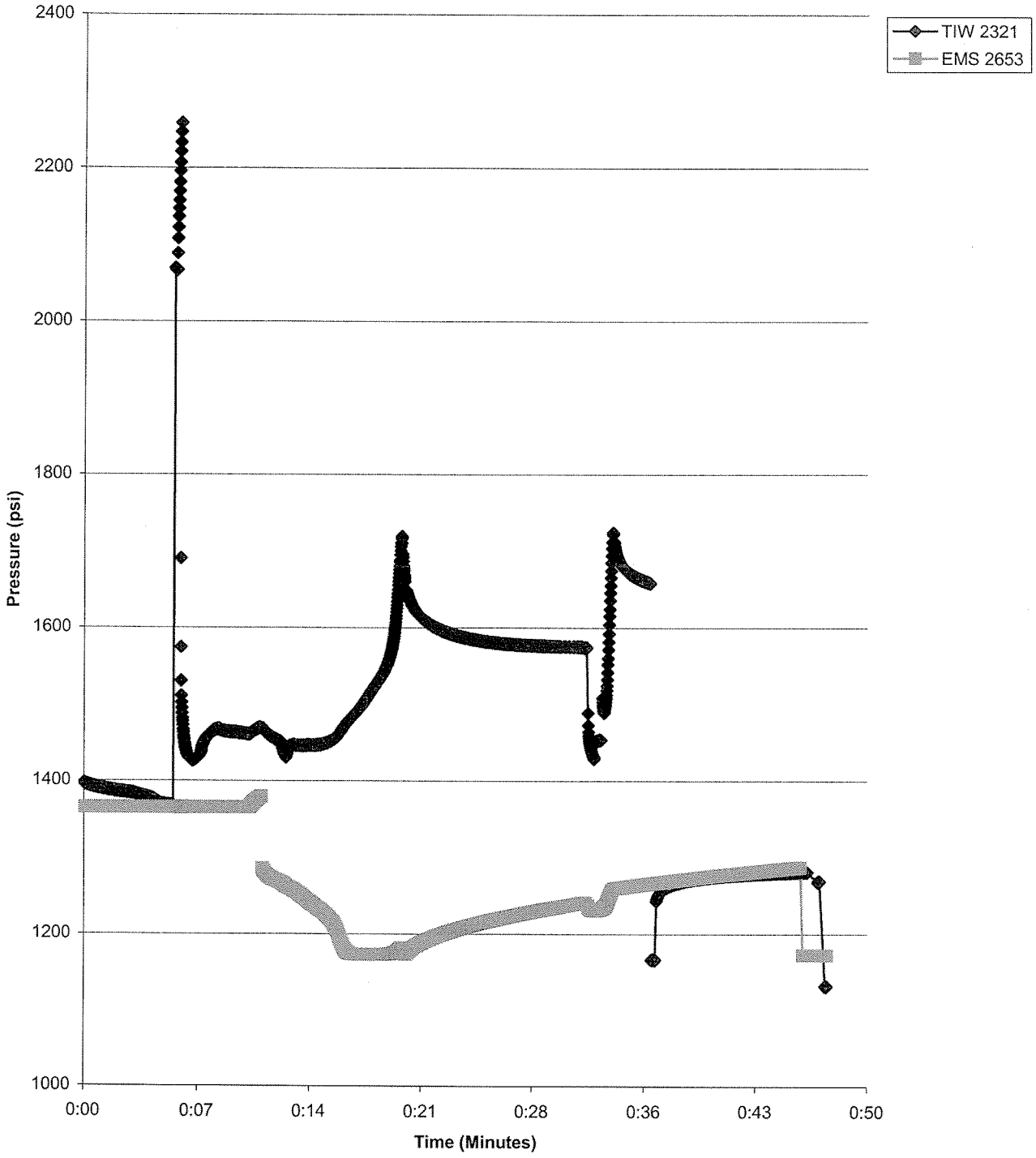
I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
0	0	1235	1189.40	11:02		TIE SHOE OUT 18
1.0	900					PUMP TO 900 X
				11:03 AM		TIE I
						PUMP TO 1300 X
		1197.6				SHOE IN RE-LAND
		1187.6	11			SHOE OUT 23 RELAND
		1187.3	11			SHOE OUT 23
		1279.03				SHOE OUT 19
1.0	100					PUMP 1000
						TIE INF

MP 55 Packer Inflation Record

Company: Westbay Instruments Inc.
Site:Bruce, Ont
Description: Packer 4
Well:DGR-2
WB: 860
Comment: 0612

Packer: 0612-454B
Packer Depth:807.1 m



Plot By:_____

Packer Inflation DGR-2 p4.xls

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MP55 Packer Inflation Field Record

Project: **WB 860**	Client: **OPG**	By: Andrew Bessant	Date:
Location: **Bruce**	Well No. **DGR-2**	Borehole Diameter:	
Packer No. 4	Depth:	Computer Data File:	.WDF
Inf-Tool No.	Vent Tool No.	Volume Pumped: 12.50	Vol Returned 4.75
H-B Valve: (P_H)	Offset (P_V).	Confirm Venting (Vent Tool Data) (Y/N)	✓
Vent Tool Pressure (Shoe Out, P_O) 1365		Final Inf'n Vol: 11.75	Final Press: 1575 (P_F)
Comments:		Calc'd Element Pressure ($P_F + P_V - P_O$) 210	
		Confirm Pkr Valve Closed (Yes/No): Y	

1565

Pumping Information

I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
1	350	1369	1365.93	10:18		Pump to 350
						Tie T open 1400
2	350	1450	1365.89	10:21		
3	600	1466	1365.3	10:22		
4	600	1463	1365.4	10:23		
5	600	1467	1378.2	10:24		Sensors / Vents open
6	600	1453	1269.7	10:25		Stop Pump, Free Tank
7	600	1445	1247	10:27		
8	600	1442	1228	10.28		
9	600	1460	1189	10:29		
10	600	1494	1173	10:30		
11	700	1536	1173	10:32		
11.50	700	1559	1173	10:32		
		1710	1175	10:33		Pump OFF / Tie Off
		1624	1184	10:34		Close Vent
		1592	1203	10:36		QA
		1576	1231	10:44		
12.50	1000	1575	1235	10:44:30		Pump to 1000
		1667	1263	10:48		ADD Water close Vent (The Vent would not work)
		1680	1267			Tie C
12.75						Vent
		1263	1269	10:50		Tie O

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MP55 Packer Inflation Field Record Part 2

Project: **WB 860** Well No. **DGR-2** Packer No. 4 Date: DEC 02/07

Pumping Information

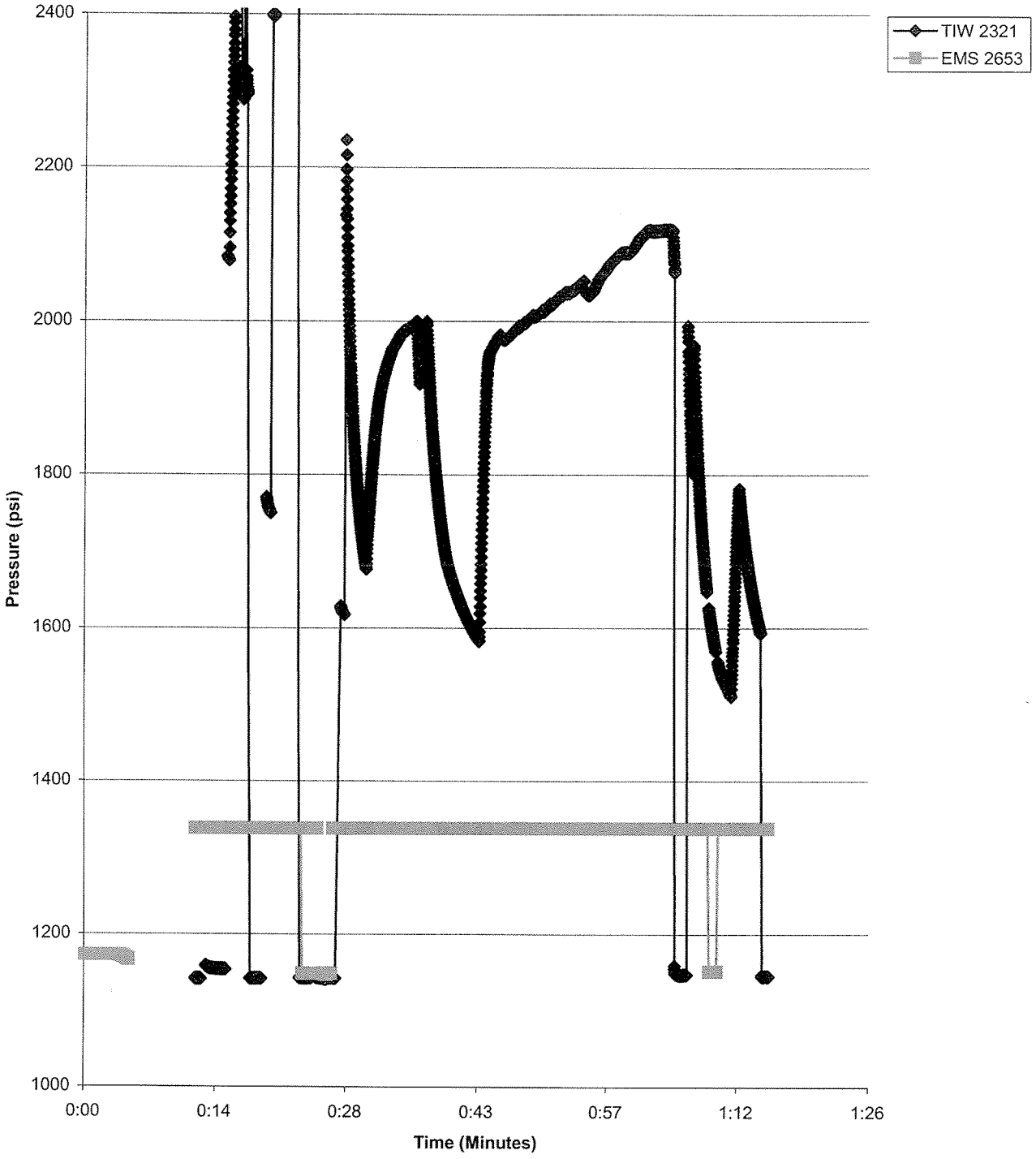
I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
		1280	1258	10:58		5min QA
		1280	1172.6			SHOE IN FEMS ISRO7
		1134	1172.5	11:04		TIE SHOE IN

MP 55 Packer Inflation Record

Company: Westbay Instruments Inc.
Site:Bruce, Ont
Description: Packer 5
Well:DGR-2
WB: 860
Comment: 0612

Packer: 0612-551
Packer Depth:790.5 m



Plot By:_____

Packer Inflation DGR-2 p5.xls

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MP55 Packer Inflation Field Record

Project: **WB 860**	Client: **OPG**	By: Andrew Bessant	Date: Dec 2/02
Location: **Bruce**	Well No. **DGR-2**	Borehole Diameter:	
Packer No. 5	Depth:	Computer Data File:	.WDF
Inf-Tool No. —	Vent Tool No. —	Volume Pumped: 11.25	Vol Returned .75
H-B Valve: (P_H) —	Offset (P_V). —	Confirm Venting (Vent Tool Data) (Y/N) N	
Vent Tool Pressure (Shoe Out, P_O) 1338		Final Inf'n Vol: 10.50	Final Press: 1580 (P_F)
Comments: 612		Calc'd Element Pressure ($P_F + P_V - P_O$) 250	
		Confirm Pkr Valve Closed (Yes/No): ✓	

1580

Pumping Information

I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
0	0	1144.98	1338.08	11:18		TEMS SHOE OUT
		1150.24	"	11:20		TIE SHOE OUT Row 20
1.2	1000	1154	"	11:21		Pump to 1000
						TIE INF ✓
						SHOE IN Row 12
		1142.31	1338.18	11:26		SHOE OUT TIE 17
2	1300	1156.12				Pump AT 1300
						TIE I 2000 ✓
		1142	1338.18			SHOE IN TIE 12
		1142.1	1143.7			SHOE IN TEMS 13
		1143.1	1338.20			SHOE OUT TEMS 13
		1145.32	1338.21			TIE SHOE OUT 20
3	1800			11:36		TIE INF 1300 ✓
4		1963	1338.11	11:40		
5	900	1994	1338.11	11:44		Stop pump
	500	1890	1338.1	11:49		Start pump
6		1999	1338.1	11:52		
7		2006	"	11:55		
8	1000	2039	"	11:59		
9	1000	2056	"	12:03		
10	1050	2093	"	12:06		
11	1050	2119	"	12:10		
11.20	1050	1752	"	12:19		

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MP55 Packer Inflation Field Record Part 2

Project:___WB 860__ Well No.____DGR-2 Packer No.__S__ Date:__Dec 2/07__

Pumping Information

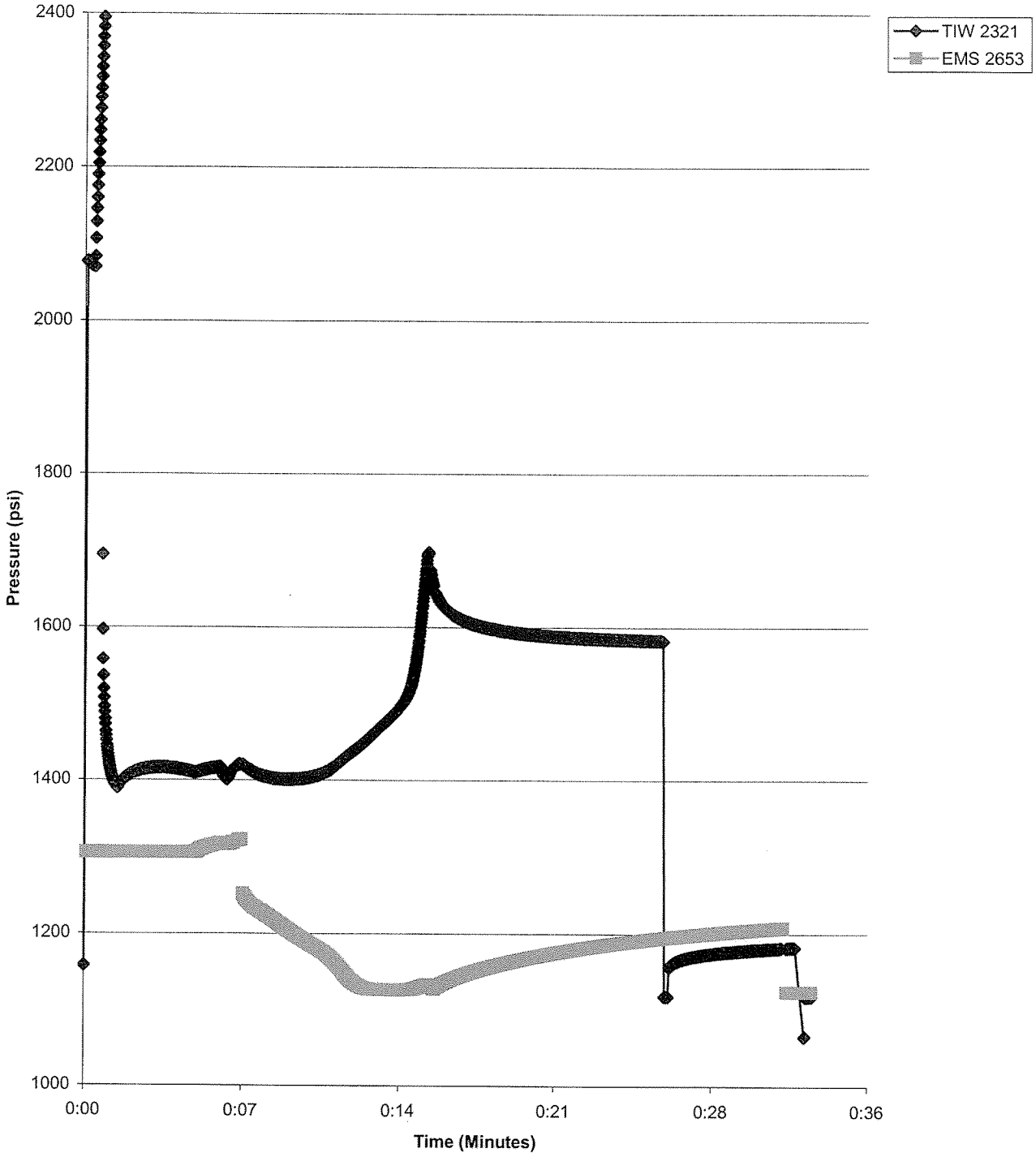
I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
		1144.9	1151.3	12:23		SHOE IN EMS 13
		1146.2	1151.3	12:24		SHOE IN TIE 20

MP 55 Packer Inflation Record

Company: Westbay Instruments Inc.
Site:Bruce, Ont
Description: Packer 6
Well:DGR-2
WB: 860
Comment: 0612

Packer: 0612-554
Packer Depth:771.0 m



Plot By:_____

Packer Inflation DGR-2 p6.xls

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MP55 Packer Inflation Field Record

Project: **WB 860** Client: **OPG**	By: Andrew Bessant Date: Dec 2/04
Location: **Bruce** Well No. **DGR-2**	Borehole Diameter: —
Packer No. 6 Depth:	Computer Data File: .WDF
Inf-Tool No. — Vent Tool No. —	Volume Pumped: 12.00 Vol Returned 1.25
H-B Valve: (P_H) — Offset (P_V). —	Confirm Venting (Vent Tool Data) (Y/N) Y
Vent Tool Pressure (Shoe Out, P_O) 1305	Final Inf'n Vol: 10.75 Final Press: 1583 (P_F)
Comments:	Calc'd Element Pressure ($P_F + P_V - P_O$) 278
	Confirm Pkr Valve Closed (Yes/No): Y

1530

Pumping Information

I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
0	0	1117.10	1182.4	12:39		Landed
		1116.76	1305.7	12:40		Ems shoe out 13
		1161.31	1305.7	12:41		Tie out 17
1.25	1000	1158	"	12:42		pump 1000
		1394	"	12:44		Tie I 1500
2	500	1480	"	12:44 30		
3	550	1415	"	12:46		
4	550	1411	"	12:47		
5	550	1416	1315	12:49		Squeeze / Stop pump
6	550	1415	1254	12:50		Start pump / Limit system
7	550	1400	1204	12:52		
8	550	1409	1274	12:54		
9	550	1432	1135	12:55		
10	550	1469	1126	12:56		
11	600	1521	1126	12:59		
		1695	1133	13:59		Pump off / Tie off
11.50		1627	1132	12:59		Vent Close
		1583	1193	14:09		QA
12.00						Pump to 950
						Tie C
10.75		163	1196	1:10		Vent Line
		1169	1126	"		Tie O
		1173	1200	1:11		OAS min

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MP55 Packer Inflation Field Record Part 2

Project:___**WB 860**__ Well No.____**DGR-2** Packer No.__6__ Date:__DEC/22/07__

Pumping Information

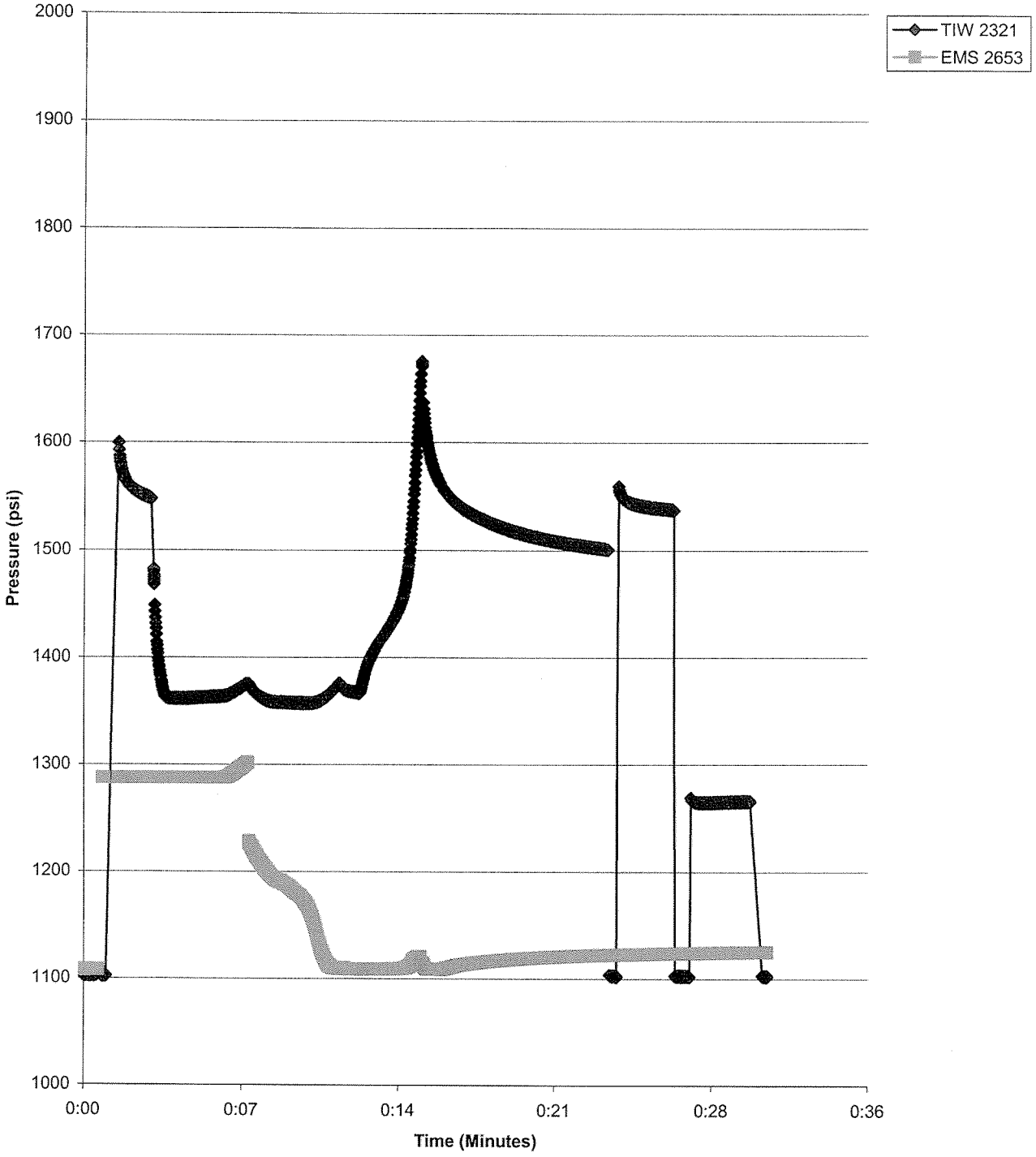
I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
0	0	1180	1207	1:14		SHOE IN TEMAS Rot 13
		1966	1123.04	1:15		" TIE Rot 17
		1118.43	"	1:16		SUCTION
						END

MP 55 Packer Inflation Record

Company: Westbay Instruments Inc.
Site:Bruce, Ont
Description: Packer 7
Well:DGR-2
WB: 860
Comment: 0612

Packer: 0612-344B
Packer Depth:760.2 m



Plot By:_____

Packer Inflation DGR-2 p7.xls

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MP55 Packer Inflation Field Record

Project: **WB 860**	Client: **OPG**	By: Andrew Bessant	Date: —
Location: **Bruce**	Well No. **DGR-2**	Borehole Diameter: —	
Packer No. 1	Depth: —	Computer Data File: —	.WDF
Inf-Tool No. —	Vent Tool No. —	Volume Pumped: —	Vol Returned —
H-B Valve: (P_H) —	Offset (P_V). —	Confirm Venting (Vent Tool Data) (Y/N) —	
Vent Tool Pressure (Shoe Out, P_O) 1282		Final Inf'n Vol: —	Final Press: — (P_F)
Comments: TIE 2321 Valve motor Failure Drain Packer		Calc'd Element Pressure ($P_F + P_V - P_O$) —	
		Confirm Pkr Valve Closed (Yes/No): —	

1537

Pumping Information

I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
0	0	1102.4	1107.6	11:18am		LANDED
0	0	1102.6	1287.91	11:20		EMS SHOE OUT
0	0	1432	11	11:21		TIE " " 21
2.1	1000	1354	11			Pump to 1000 ✓
						Tie T
		1406	11	11:24		pump to 1400 ✓
2	800	1378	11	11:25		
3	11	1393	1289	11:26		
4	11	1393	1290	11:28		
5	11	1402	1306	11:29		Squeeze Vent + open
6	600	1387	1212			stop pump
		1351	1202	11:31		Start pump
7	600	1377	1180	11:32		
8	600	1381	1160	11:33		
9	700	1404	1112	11:35		
10	11	1435	1108	11:36		
11	11	1492	1103			
11.9		1635	1109	11:39		Stop pump / TIE OFF
		1579	1110	11:39:30		Close Vent
		1501	1125.9	11:43		OA
		1455	1127.7	11:49		
						Pump to 1000
						Tie C

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MP55 Packer Inflation Field Record

Project: **WB 860**	Client: **OPG**	By: Andrew Bessant	Date: Dec 5/07
Location: **Bruce**	Well No. **DGR-2**	Borehole Diameter:	
Packer No. 7	Depth:	Computer Data File:	.WDF
Inf-Tool No. —	Vent Tool No. —	Volume Pumped: 13.2	Vol Returned: 10
H-B Valve: (P_H) —	Offset (P_V): —	Confirm Venting (Vent Tool Data) (Y/N)	Y
Vent Tool Pressure (Shoe Out, P_O) 1287		Final Inf'n Vol: 12.5	Final Press: 802 (P_F)
Comments: Packer Valve will nearly open from previous log		Calc'd Element Pressure ($P_F + P_V - P_O$) 215	
		Confirm Pkr Valve Closed (Yes/No): Y	

1550

Pumping Information

I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
0	0	1102	1107	4:08		
		1102	1287	4:09		Equ SHO 14
						TIE SHO 23 ?
						TIE I
1	700	1277	1287			
2	800	1282	1287	4:17		
3	900	1297	1287	4:19		
4	950	1326	1287	4:22		
5	1000	1338	1287	4:26		
						SHOT to Re-Level 23?
		1550	1287.6	4:40		
	1200					Pump 1200
						TIE INF 1200
6		1380	1287.8	4:42		
7		1362	1287.8	4:44		
8		1366	1290			Squeeze Vent open
9		1360	1225	4:46		
		1358	1198	4:47		
10		1357	1177	4:48		
11		1370	1109	4:50		
12	1200	1433	1108	4:52		
13.2		1606	1108	4:54		TIE O Pump OFF
			1110	4:55		Vent Closed
		1505	1121	5:08		OFF

Schlumberger WATER SERVICES

MP55 Packer Inflation Field Record Part 2

Project: **WB 860** Well No. **DGR-2** Packer No. 2 Date: Dec 5/07

Pumping Information

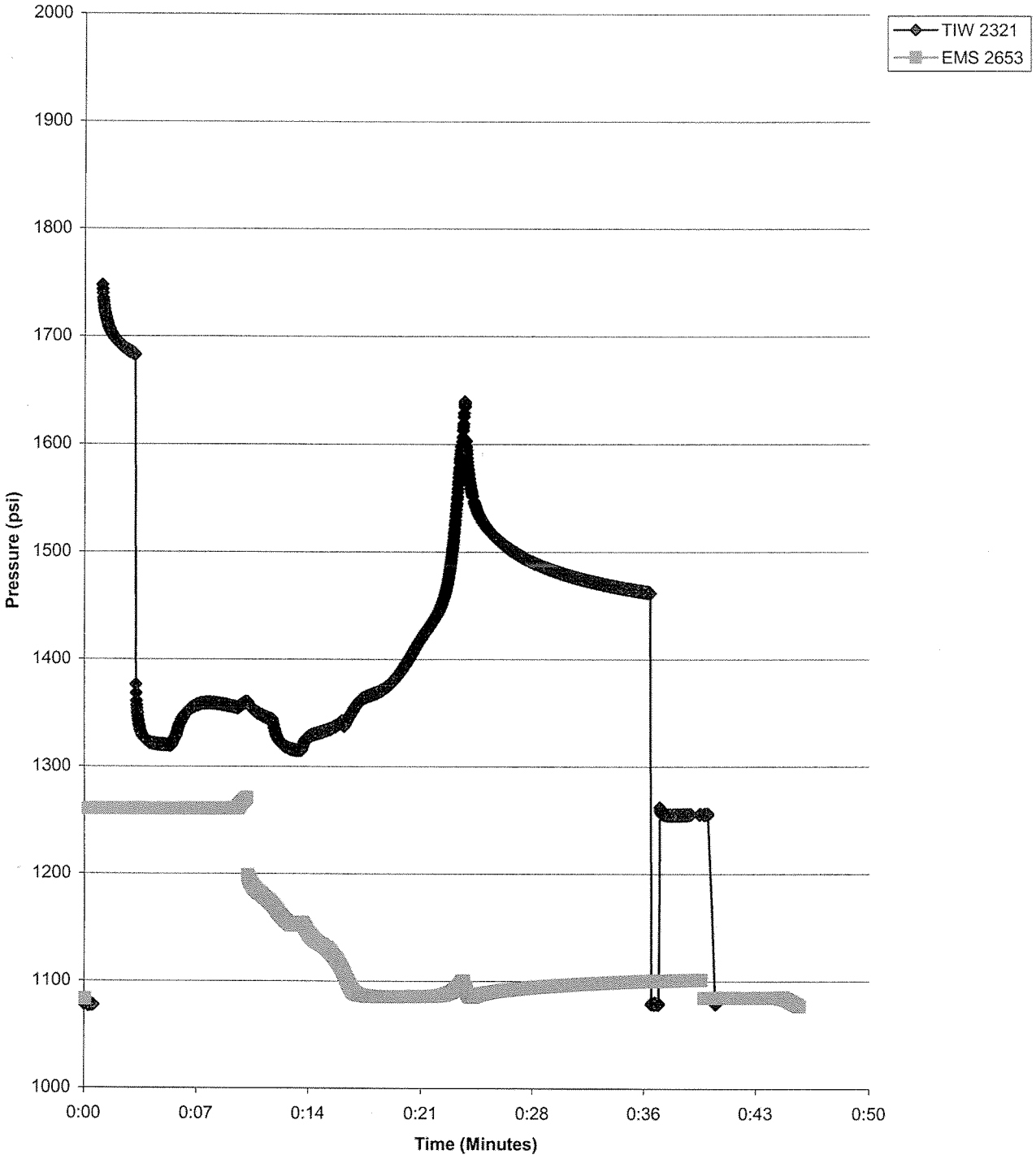
I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
13.5	1000	1502	1122	5:05		Pump 1000 Line C
12.5	0					Vent Line
		1265	1124	5:06		Line O
		1266	1124	5:09		QA
		1102	1108	5:10		END

MP 55 Packer Inflation Record

Company: Westbay Instruments Inc.
Site:Bruce, Ont
Description: Packer 8
Well:DGR-2
WB: 860
Comment: 0612

Packer: 0612-455B
Packer Depth:743.6 m



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MP55 Packer Inflation Field Record

Project: **WB 860** Client: **OPG**	By: Andrew Bessant Date: Dec 5/07
Location: **Bruce** Well No. **DGR-2**	Borehole Diameter: —
Packer No. 8 Depth: —	Computer Data File: — .WDF
Inf-Tool No. — Vent Tool No. —	Volume Pumped: 13 Vol Returned 1.25
H-B Valve: (P_H) — Offset (P_V). —	Confirm Venting (Vent Tool Data) (Y/N) Y
Vent Tool Pressure (Shoe Out, P_O) 1260	Final Inf'n Vol: 11.75 Final Press: 1464 (P_F)
Comments:	Calc'd Element Pressure ($P_F + P_V - P_O$) 204
	Confirm Pkr Valve Closed (Yes/No): Y

1510

Pumping Information

I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
0	0	10783	1038.64	5:19		
		1078.4	1260.4	5:20		Ems SHO 13
		1721	"	5:21		TIR SHO 18
1.2	1200	1185	1260.4	5:22		pump 1200 ✓
		1320	1260.5	5:25		TIR I
2	500	1348	1260.5	5:26		
3	600	1359	"	5:27		
4	600	1356	"	5:29		
5			1268.6			Squeeze
			1193.5	5:30		
6	600	1335	1168	5:32		Stop pump
7	600	1331	1133	5:35		
8	600	1338	1106	5:37		
9	600	1374	1085	5:39		
10	600	1395	1085	5:39		
11	600	1421	1085	5:42		
11.5	700	1454	1091			
12.5	700	1625	1091	5:45		TIR O / Pump O
		1577	1085			Vent Closed
13	1000	1764	1099	5:55		
						TIR C Pump 100
11.75	0					Vent Line
		1266	1100.4	5:57		TIR O

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MP55 Packer Inflation Field Record Part 2

Project: **WB 860** Well No. **DGR-2** Packer No. 8 Date: Dec 5/07

Pumping Information

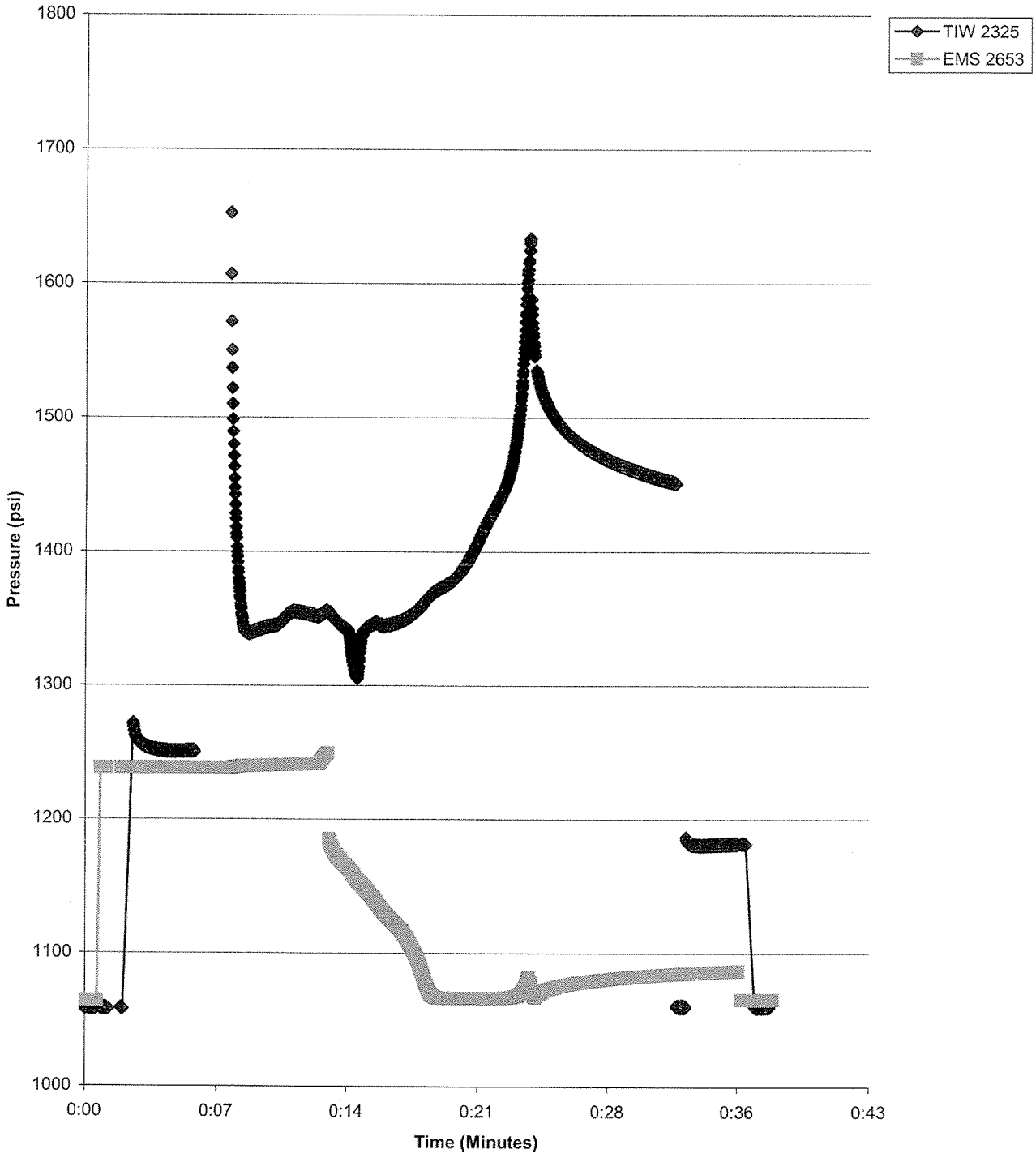
I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
0	0	1255	1101	5:00		QA
		1255	1094			SHOE IN EMS
		1016	1094			" TIE SECTION
		1079	1084	6:01		END

MP 55 Packer Inflation Record

Company: Westbay Instruments Inc.
Site:Bruce, Ont
Description: Packer 9
Well:DGR-2
WB: 860
Comment: 0612

Packer: 0612-345B
Packer Depth:730.1 m



Plot By:_____

Packer Inflation DGR-2 p9.xls

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MP55 Packer Inflation Field Record

Project: **WB 860**	Client: **OPG**	By: Andrew Bessant	Date: Dec 05/02
Location: **Bruce**	Well No. **DGR-2**	Borehole Diameter: —	
Packer No. 9	Depth: —	Computer Data File: —	.WDF
Inf-Tool No. —	Vent Tool No. —	Volume Pumped: 13.90	Vol Returned .50
H-B Valve: (P_H) —	Offset (P_V). —	Confirm Venting (Vent Tool Data) (Y/N) Y	
Vent Tool Pressure (Shoe Out, P_O) 1238		Final Inf'n Vol: 13	Final Press: 1457 (P_F)
Comments:		Calc'd Element Pressure ($P_F + P_V - P_O$) 219	
		Confirm Pkr Valve Closed (Yes/No): Y	

1490

Pumping Information

I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
0	0	1058.6	1064	5:10		Line
		1058	1238	5:14		FMS SHO 13
		1371	1238			TIR SHO 21
1.7	1000	1417	1237	5:21		pump 1200
						FILE I 1500
2	—	—	—	—		
3	500	1344	1240	5:23		
4	600	1355	1241	5:25		
5	600	1352	1246	5:26		Vent open
5.5		1353	1183	5:27		
6	600	1343	1164	5:27:30		Stop/Fill tank
		1337	1150	5:28		start
7	600	1344	1134	5:29		
8	600	1348	1118	5:30		
9	700	1359	1086	5:32		
10	700	1373	1066	5:33		
11	700	1389	1066	5:34		
11.5	700	1406	1066	5:35		
12		1422	"			
13	700	1457	"	5:36		
13.90		1624	1071	5:38		Pump OFF / TIR OK
		1506	1072	5:38		Vent Close
		1457	1093	5:44		
14.25	1000			5:45		pump to 1000

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MP55 Packer Inflation Field Record Part 2

Project: **WB 860** Well No. **DGR-2** Packer No. 9 Date: Dec 6/07

Pumping Information

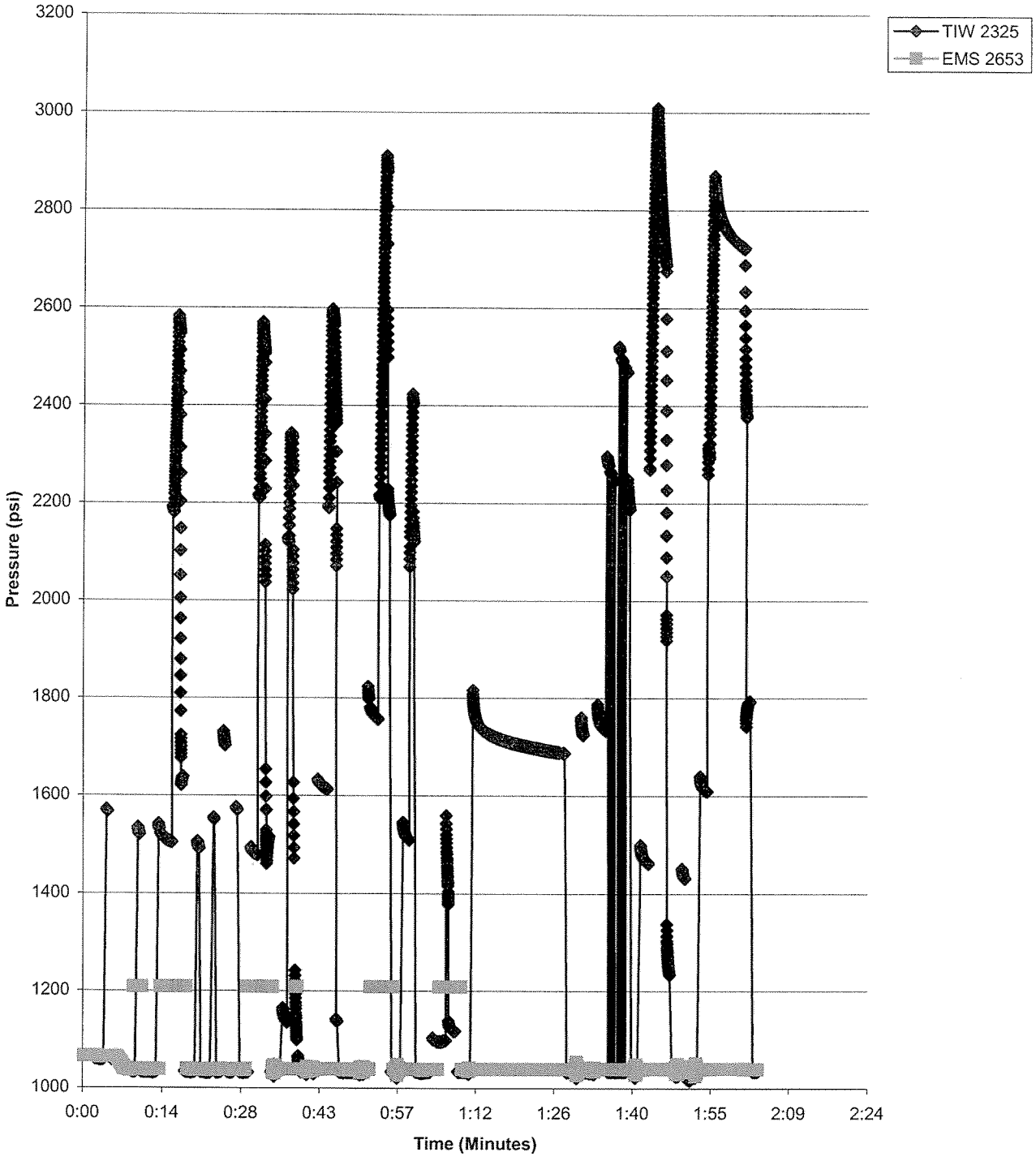
I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
				5:46		TIE C
	0					VENT LINE
13.00		1181	1085	5:46		TIE O
		1180	1086	5:48		Q4
		1180	1088	5:51		
		1181	1065			SHOE IN FMS 13
						" TIE 18

MP 55 Packer Inflation Record

Company: Westbay Instruments Inc.
Site:Bruce, Ont
Description: Packer 10
Well:DGR-2
WB: 860
Comment:Packer Valve would not open.

Packer: 0612-564
Packer Depth:712.0 m



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Packer Inflation DGR-2 p10.xls

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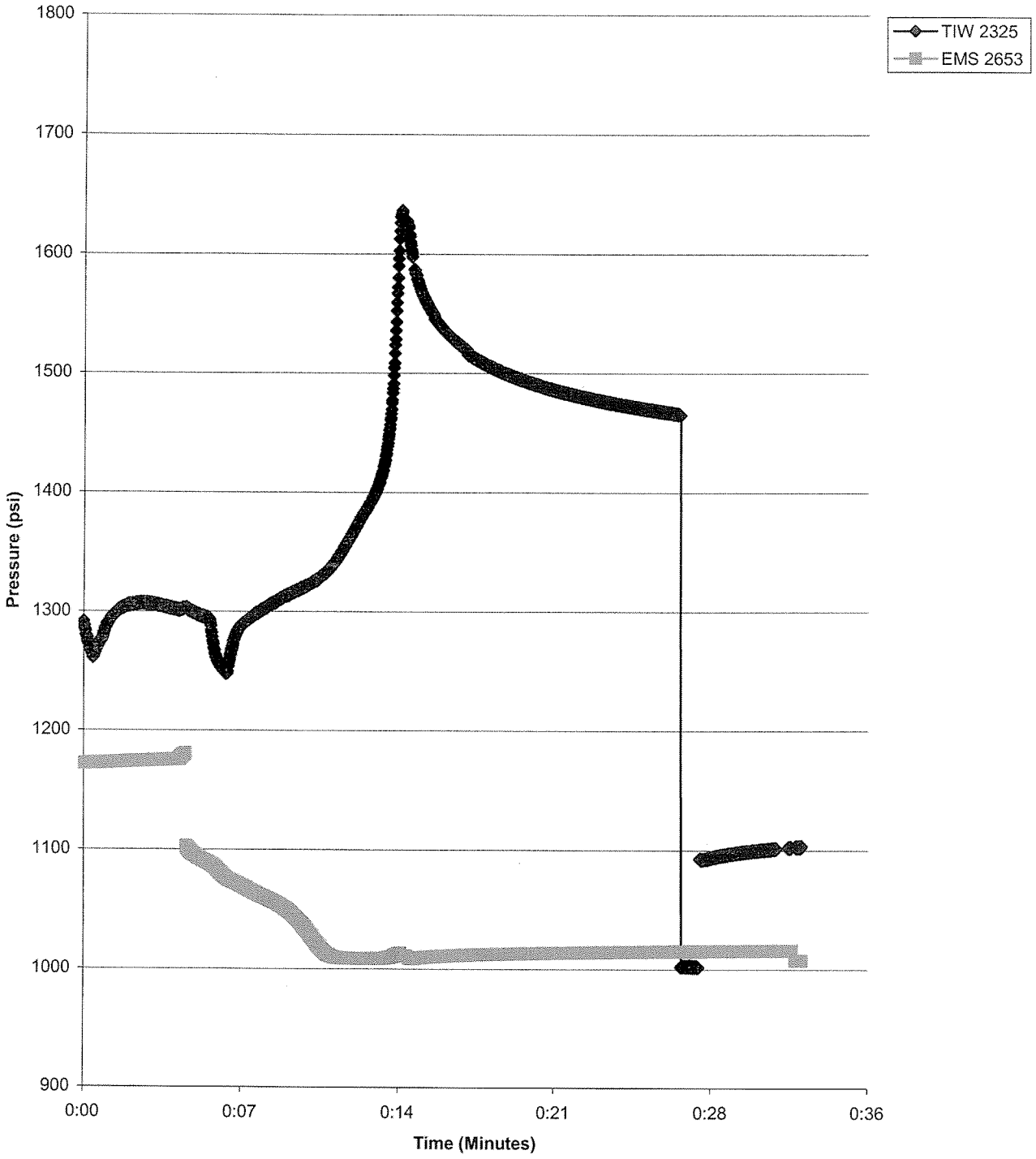
MP 55 Packer Inflation Record

Company: Westbay Instruments Inc.
Site:Bruce, Ont
Description: Packer 11
Well:DGR-2
WB: 860
Comment:

Packer: 0612-535
Packer Depth:689.4 m



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Packer Inflation DGR-2 p11.xls

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MP55 Packer Inflation Field Record

Project: **WB 860**	Client: **OPG**	By: Andrew Bessant	Date: DEC 7/04
Location: **Bruce**	Well No. **DGR-2**	Borehole Diameter: —	
Packer No. 11	Depth: —	Computer Data File: —	.WDF
Inf-Tool No. —	Vent Tool No. —	Volume Pumped: 13.5	Vol Returned 1.9
H-B Valve: (P_H) —	Offset (P_V). —	Confirm Venting (Vent Tool Data) (Y/N) Y	
Vent Tool Pressure (Shoe Out, P_O) 1092		Final Inf'n Vol: 12.5	Final Press: 1465 (P_F)
Comments:		Calc'd Element Pressure ($P_F + P_V - P_O$) 293	
		Confirm Pkr Valve Closed (Yes/No): Y	

1500

Pumping Information

I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
						Tie I 1700
2	500	1277	1172.3	10:03		
3	600	1305	1174.14	10:05		
4	600	1305	1174.9	10:06		
5	600	1301	1177	10:07		Vent open
		1302	1103			
6	600	1298	1098	10:08		Stop pump / Flow
		1247	1095	10:09		Start pump
7	700	1295	1064	10:10		
8	700	1308	1054	10:12		
9	700	1319	1036	10:13		
10	"	1328	1010	10:14		
11	800	1362	1009	10:15		
12		1414	1028	10:16		
13.0		1430	1008	10:17		Pump off Flow off
		1556	1009	10:18 30		Vent Close
		1467	1014	10:29		
13.5	1000	1463	1015	10:30		Pump 1000
		1083	1015	10:30 30		Tie C
14.5	0					Vent Lines
		1097	1015.4	10:31		Tie O
		1099	1015.7	10:35		QA

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MP55 Packer Inflation Field Record Part 2

Project: **WB 860** Well No. **DGR-2** Packer No. 11 Date: DEC 7/07

Pumping Information

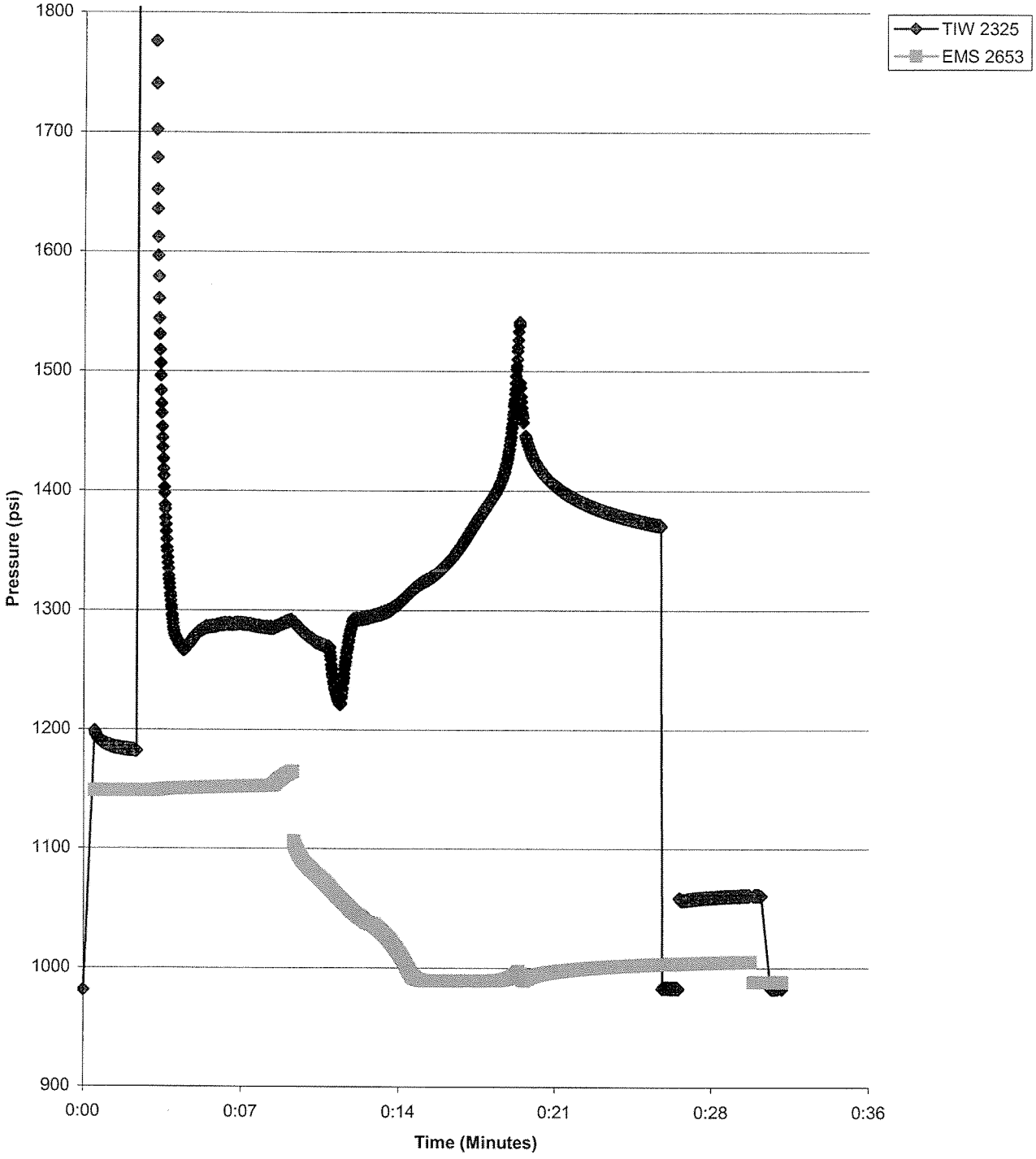
I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
	0	1100	1016	10:36		QA
		1101	1007			SHOE IN EMS
		955.8	1007			SHOE NOT TIE SECTION
		1002	1007			
						END

MP 55 Packer Inflation Record

Company: Westbay Instruments Inc.
Site:Bruce, Ont
Description: Packer 12
Well:DGR-2
WB: 860
Comment:

Packer: 0612-569
Packer Depth:675.9 m



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Packer Inflation DGR-2 p12.xls

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MP55 Packer Inflation Field Record

Project: **WB 860** Client: **OPG**	By: Andrew Bessant Date: Dec
Location: **Bruce** Well No. **DGR-2**	Borehole Diameter: —
Packer No. 12 Depth: —	Computer Data File: — .WDF
Inf-Tool No. — Vent Tool No. —	Volume Pumped: 12.80 Vol Returned 1.05
H-B Valve: (P_H) ✓ Offset (P_V). —	Confirm Venting (Vent Tool Data) (Y/N) Y
Vent Tool Pressure (Shoe Out, P_O) 1148	Final Inf'n Vol: 11.75 Final Press: 1374 (P_F)
Comments:	Calc'd Element Pressure ($P_F + P_V - P_O$) 226
	Confirm Pkr Valve Closed (Yes/No): Y

1400

Pumping Information

I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
		1192	1148			Shoe out 13/16
						Pump 1200
		1402	1149			Line E 1700
2	500	1274	1150	10:51		
3	550	1286	1151	10:53		
4	11	1287	1152	10:54		
5	11	1289	1162	10:56		Vent open
		1290	1108	10:56		
6	11	1270	1073.8	10:58		Stop pump / Line
7	650	1294	1026	11:00		
8	11	1304	1014	11:01		
9	11	1324	989.4	11:02		
10	11	1343	989.4	11:04		
11	700	1379	989.4	11:05		
12		1423	11	11:06		
12.25		1526	997	11:07		Line off / Pump off
		1409	995	11:08		Vent closed
		1396	998	11:09		
		1374	1002	11:08		
12.80	1000					Pump 1000
		992	1003	11:13		Line C
11.75	0					Vent Line

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MP55 Packer Inflation Field Record Part 2

Project: **WB 860** Well No. **DGR-2** Packer No. 12 Date: Dec 07/07

Pumping Information

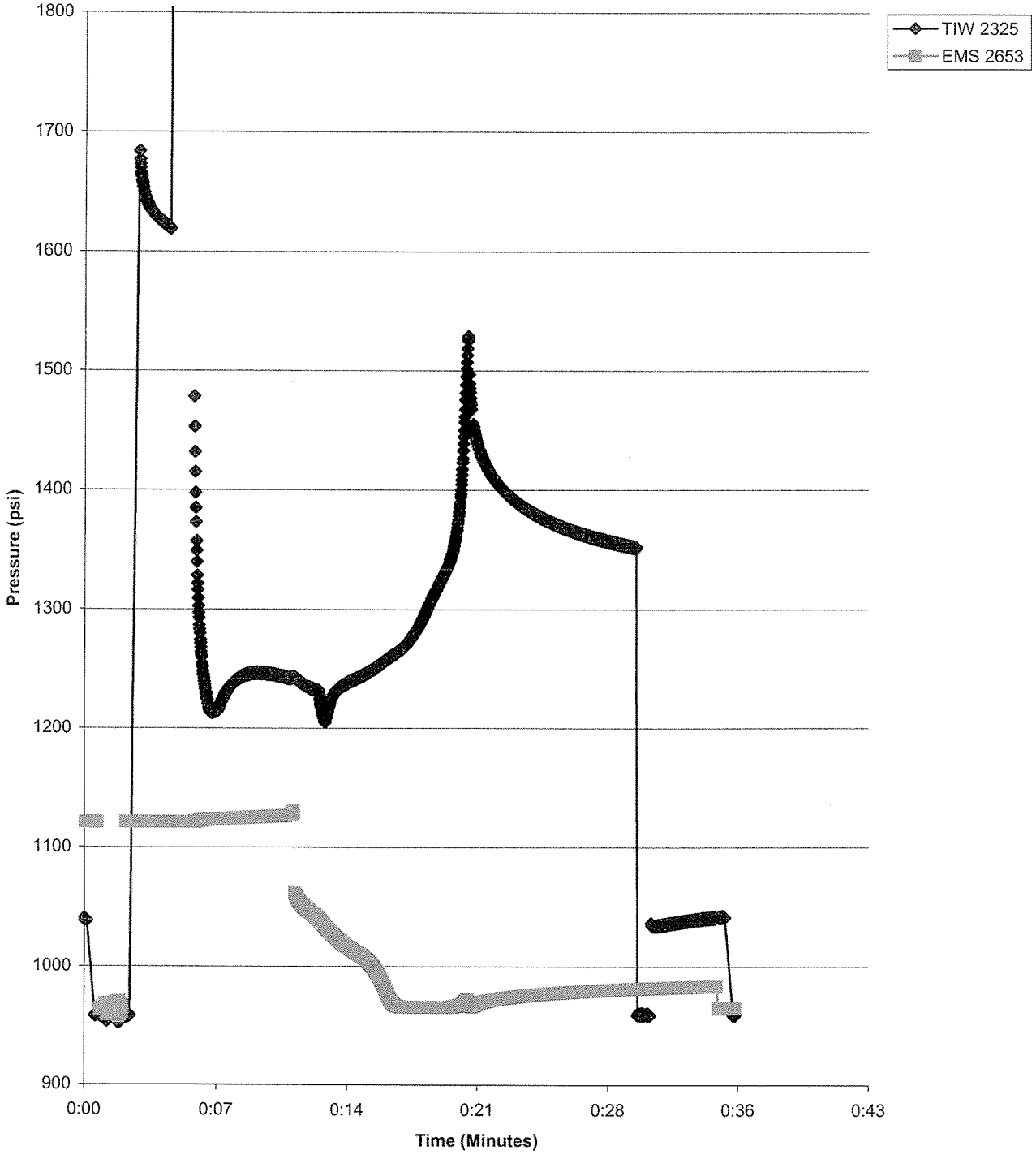
I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
11.75	0	1057	1003.8	11:14		TIE O
		1059	1004.5	11:16		QA
		1060	1005.12	11:17		
		983.8	988.56	11:18		SHOE IN KMS
		983.9	977.51			" TIE
		983.8	988.56	11:19		END

MP 55 Packer Inflation Record

Company: Westbay Instruments Inc.
Site:Bruce, Ont
Description: Packer 13
Well:DGR-2
WB: 860
Comment:

Packer: 0612-561
Packer Depth:659.3 m



Plot By:_____

Packer Inflation DGR-2 p13.xls

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MP55 Packer Inflation Field Record

Project: **WB 860**	Client: **OPG**	By: Andrew Bessant	Date: Dec 7/04
Location: **Bruce**	Well No. **DGR-2**	Borehole Diameter: —	
Packer No. 13	Depth: —	Computer Data File: —	.WDF
Inf-Tool No. —	Vent Tool No. —	Volume Pumped: 13.25	Vol Returned 50
H-B Valve: (P_H) —	Offset (P_V). —	Confirm Venting (Vent Tool Data) (Y/N)	Y
Vent Tool Pressure (Shoe Out, P_O) 1121		Final Inf'n Vol: 12.75	Final Press. 1354 (P_F)
Comments:		Calc'd Element Pressure ($P_F + P_V - P_O$)	233
		Confirm Pkr Valve Closed (Yes/No):	Y

1370

Pumping Information

I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
		967	963	11:24		
			1121			FULL SHO 14
		1685	11	11:27		TIH SHO 13
1.2	1200					Pump to 1200
						1300 ✓
2	700	1264	1122.7	11:37		Stop pump
3	500	1239	1124	11:38		
4	600	1245	1125	11:40		
5	600	1242	1129	11:41		Vent open
		1241	1059			
6	600	1232	1040			Stop Fill Tank
		1204	1032	11:43		
7	700	1239	1015	11:45		
8	700	1245	1007	11:46		
9	700	1255	993	11:47		
10	750	1270	985	11:48		
11	800	1303	965	11:49		
12	900	1342	965	11:50		
		1512	972			Pump one FILL O
		1471	968	11:52		FILL O
		1382	976	11:55		Q4
		1354	980	12:00		
13.25	1000	1354	981	12:00:20		Pump 1000
		959	791	12:01		FILL C

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MP55 Packer Inflation Field Record Part 2

Project: **WB 860** Well No. **DGR-2** Packer No. 13 Date: Dec 7/04

Pumping Information

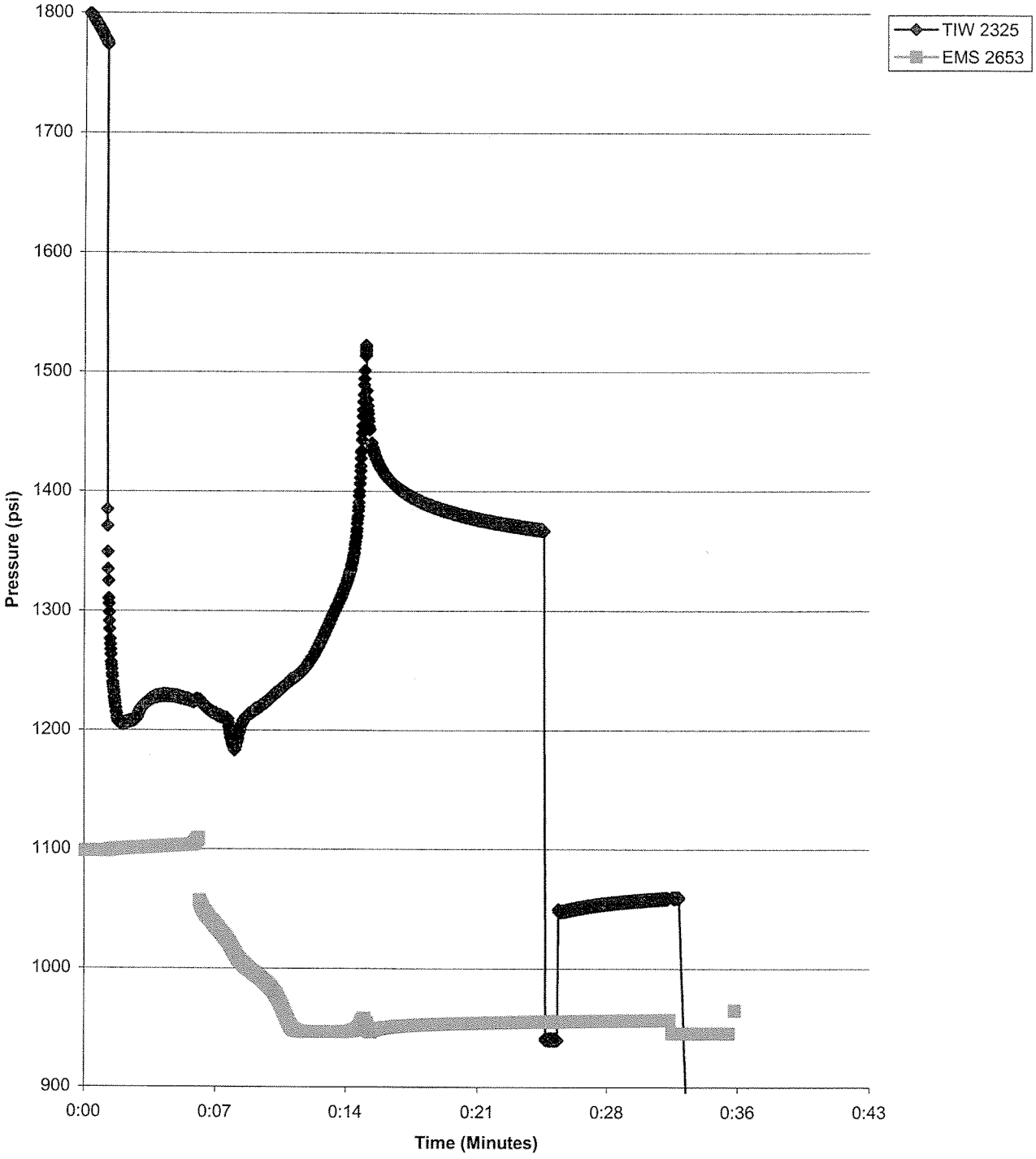
I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
4.75	0					View Line
		1039	981	12:02		TIE O
		1040	983	12:07		QA
		1040	964	12:07		SHOE IN EMS 13
		930	11			11 TIE SUCTION
		960	964	12:08		END

MP 55 Packer Inflation Record

Company: Westbay Instruments Inc.
Site:Bruce, Ont
Description: Packer 14
Well:DGR-2
WB: 860
Comment:

Packer: 0612-550
Packer Depth:645.8 m



Plot By:_____

Packer Inflation DGR-2 p14.xls

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MP55 Packer Inflation Field Record

Project: **WB 860** Client: **OPG**	By: Andrew Bessant Date: Dec 7/07
Location: **Bruce** Well No. **DGR-2**	Borehole Diameter: —
Packer No. 14 Depth:	Computer Data File: — .WDF
Inf-Tool No. — Vent Tool No. —	Volume Pumped: 12.75 Vol Returned 1.0
H-B Valve: (P_H) — Offset (P_V). —	Confirm Venting (Vent Tool Data) (Y/N) Y
Vent Tool Pressure (Shoe Out, P_O) 1098	Final Inf'n Vol: 11.75 Final Press: 1362 (P_F)
Comments:	Calc'd Element Pressure ($P_F + P_V - P_O$) 264
	Confirm Pkr Valve Closed (Yes/No): Y

1350

Pumping Information

I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
		988	944	12:18		Land
		~~1357~~	1098	12:19		Fins SHOE O 12
		1359				Tie " O 17
1.80	600	1263	1099	12:22		Pump 1500
2	600	1205	1100	12:22		
3	600	1225	1101	12:24		
4	600	1229	1102	12:25		
5	600	1225	1106	12:26		Vent open
		1222	1058	12:27		
6	600	1209	1025	12:28		Stop Pump Fill Tank
		1196	1006	12:29		Start P
7	600	1217	994	12:30		
8	700	1231	977	12:31		
9	700	1246	962	12:32		
10	700	1269	946	12:33		
11	800	1265	946	12:34		
12	800	1379	950	12:35		
		1456	950			Pump Stop
		1452				Tie O
			948	12:36		Vent Close
		1359	954	12:44		
12.75	1000	1342	955	12:45		Pump ~~700~~ 1000
		940	"	12:46		Tie C
11.75	0					Vent Line

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MP55 Packer Inflation Field Record Part 2

Project:___WB 860__ Well No.____DGR-2 Packer No.___14___ Date:__Dec 07/07__

Pumping Information

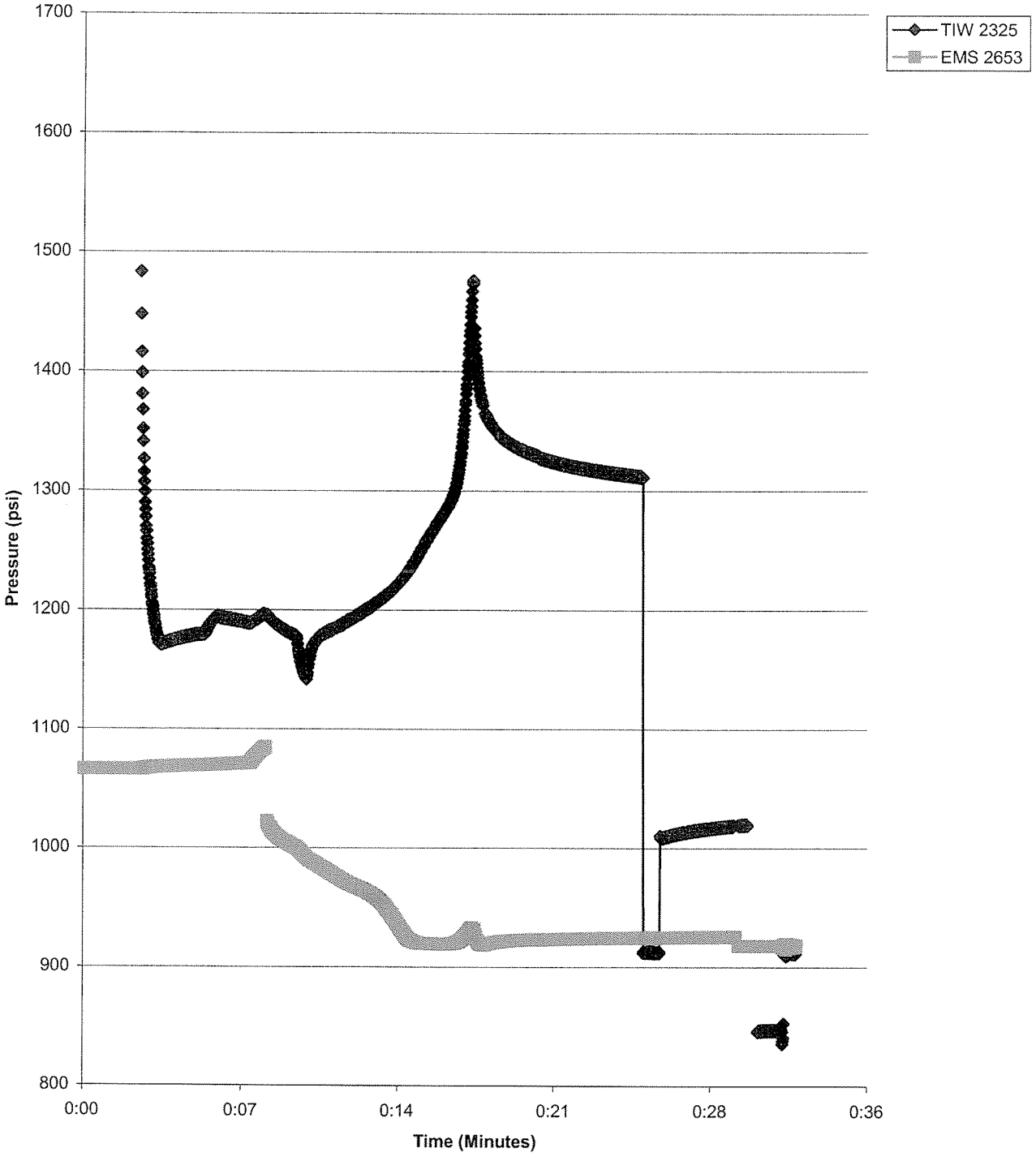
I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
		1047	955	12:47		Time 0
		1056	956	12:51		Off 5min
		1058	956	12:52		
		1058	945	12:53		Shoe in EMS
		877	945	12:53		Shoe in TIE

MP 55 Packer Inflation Record

Company: Westbay Instruments Inc.
Site:Bruce, Ont
Description: Packer 15
Well:DGR-2
WB: 860
Comment:

Packer: 0612-565
Packer Depth:626.2 m



Plot By:_____

Packer Inflation DGR-2 p15.xls

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MP55 Packer Inflation Field Record

Project: **WB 860** Client: **OPG**	By: Andrew Bessant Date: Dec 07/00
Location: **Bruce** Well No. **DGR-2**	Borehole Diameter: —
Packer No. 15 Depth: ~	Computer Data File: — .WDF
Inf-Tool No. — Vent Tool No. —	Volume Pumped: 13.0 Vol Returned 1.25
H-B Valve: (P_H) — Offset (P_V). —	Confirm Venting (Vent Tool Data) (Y/N) Y
Vent Tool Pressure (Shoe Out, P_O) 1066	Final Inf'n Vol: 11.75 Final Press: 1313 (P_F)
Comments:	Calc'd Element Pressure ($P_F + P_V - P_O$) 247
	Confirm Pkr Valve Closed (Yes/No): Y

1320

Pumping Information

I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
0	0	917	917	1:14		
		1305	1066	1:16		R/U
1.75	1500	1725	1066	1:18		Pump 1500 1600
						Tie I
2	500	1171	1069	1:19		
3	500	1178	1069	1:21		
4	600	1192	1070	1:23		
5	600	1195	1072	1:24		Vent Open
		1196	1020	1:24		
6	600	1178	1001	1:25		Stop Pump Free
		1167	988.6	1:26		Start Pump
7	700	1192	979.9	1:27		
8	700	1197	965.7	1:28		
9	700	1209	955.0	1:29		
10	750	1233	923	1:30		
11	800	1266	919	1:32		
12		1307	921	1:33		
12.5		1466	919	1:34		Pump O
		1406		11		Tie O
		1333	922	1:36		QA
		1315	924	1:40		
		1		1:41		
13.0	1100	1313	924	1:42		Pump 1000
		912	924	1:42		Tie C

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MP55 Packer Inflation Field Record Part 2

Project:___WB 860__ Well No.____DGR-2 Packer No.__15__ Date:__DEC 7/07__

Pumping Information

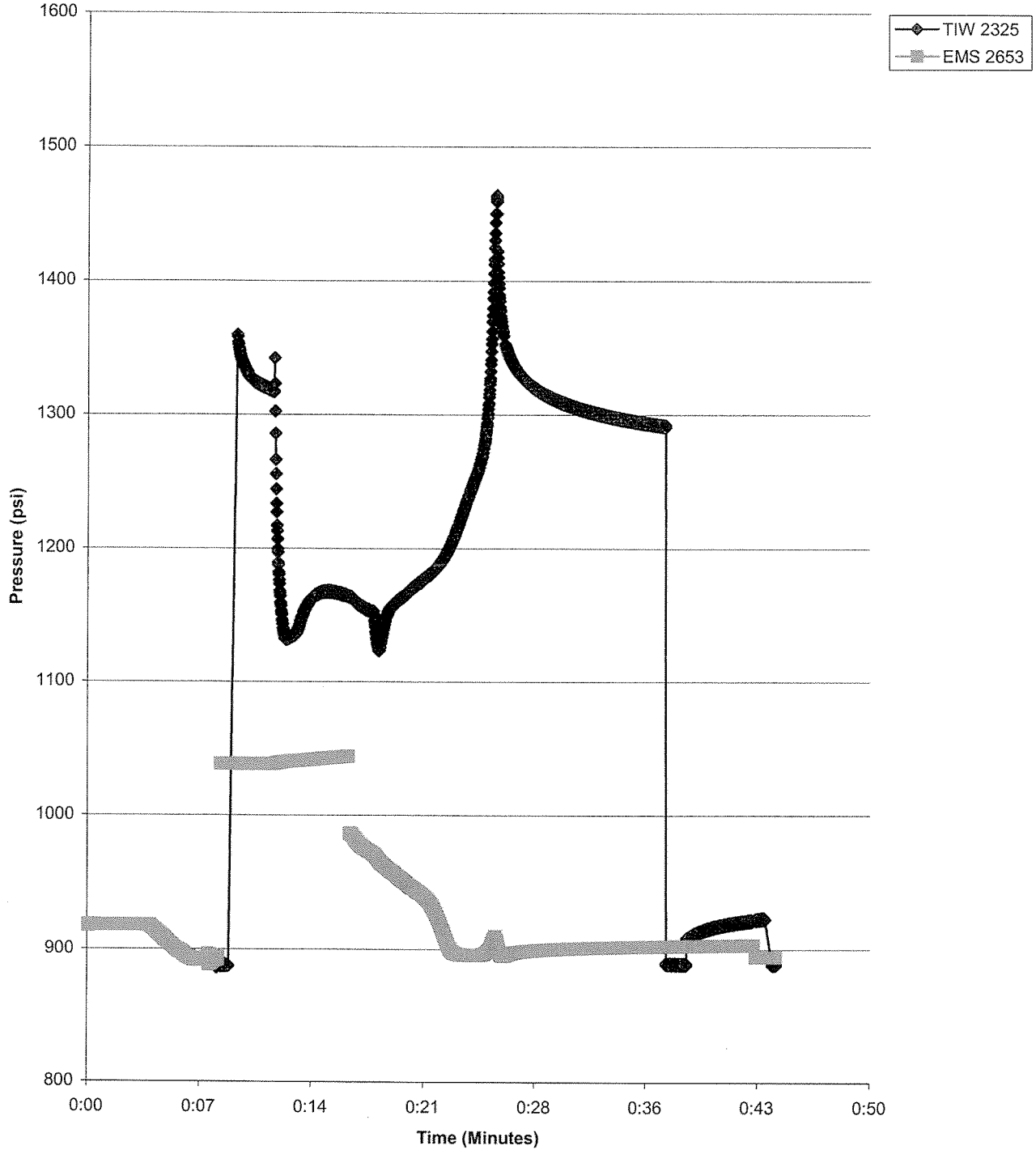
I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
11.75	0	1014	924	1:43		TIE O/VENT LINE
		1017	925	1:48		QA
		1018	918.02			SHOE IN FMS 12
		845.53	"			SHOE IN TIE 17 SUCTION
		912	911.9			END

MP 55 Packer Inflation Record

Company: Westbay Instruments Inc.
Site:Bruce, Ont
Description: Packer 16
Well:DGR-2
WB: 860
Comment:

Packer: 0612-563
Packer Depth:609.6 m



Plot By:_____

Packer Inflation DGR-2 p16.xls

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MP55 Packer Inflation Field Record

Project: WB 860	Client: **OPG**	By: Andrew Bessant	Date: Dec 07/07
Location: **Bruce**	Well No. **DGR-2**	Borehole Diameter: —	
Packer No. 16	Depth: —	Computer Data File: — .WDF	
Inf-Tool No. —	Vent Tool No. —	Volume Pumped: 12.75	Vol Returned .75
H-B Valve: (P_H) —	Offset (P_V). —	Confirm Venting (Vent Tool Data) (Y/N) Y	
Vent Tool Pressure (Shoe Out, P_O) 1038		Final Inf'n Vol: 12	Final Press: 1292 (P_F)
Comments:		Calc'd Element Pressure (P_F + P_V - P_O) 254	
		Confirm Pkr Valve Closed (Yes/No): Y	

1300

Pumping Information

I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
0	0	888	894	1:57		Landed
		11	1038	1:57		EMS SHO 12
		1352	1038	1:58		TIE SHO 12
1.75	1500	1199	1039	2:01		pump 1500 ✓
2	500	1134	1040	2:02		
3	600	1163	1041	2:03		
4	600	1166	1043	2:04		
5	600	1163	1044	2:05		Vent Open
		1163	987			
6		1152	972	2:07		Stop Pump / Fill Tank
		1149	959	2:08		Started "
7	700	1159	954	2:08 30		
8	700	1170	945	2:09		
9	700	1180	932	2:11		
10	800	1179	902	2:12		
11	800	1234	895	2:13		
12	800	1267	896	2:14		
		1432	897	2:15		
12.75		1387	896			Pump OFF / TIE O
		1315	899.37	2:17		Vent Close
		1305	900	2:19		OA
		1292	902	2:25		Pump 1000
		389	"	2:26		TIE C

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MP55 Packer Inflation Field Record Part 2

Project: WB 860 Well No. DGR-2 Packer No. 16 Date: Dec 7/07

Pumping Information

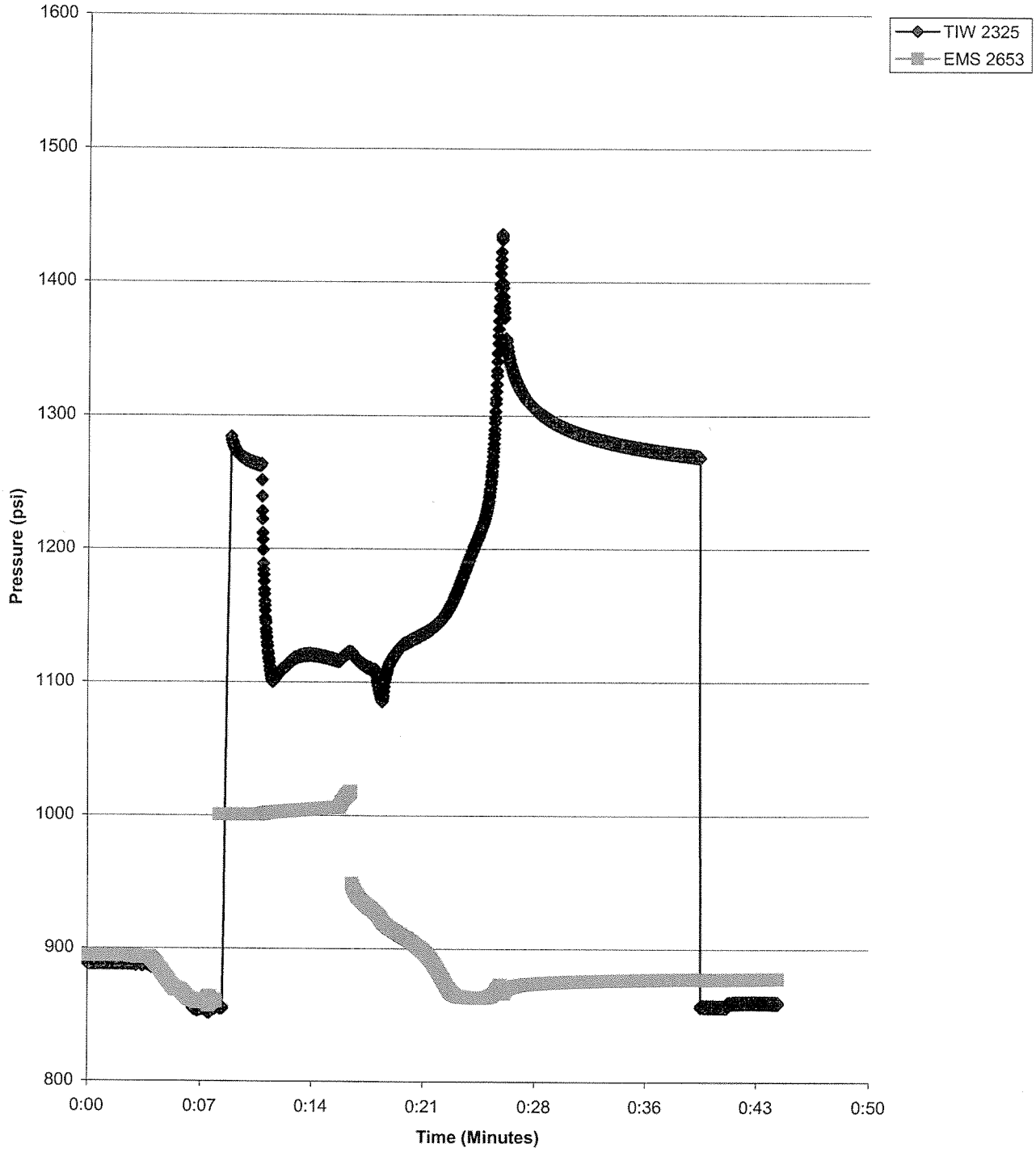
I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
12.0	0	910	902	2:27		Vent Line
		910	902	2:28		TIE O
		917	903	2:29		QA
		920	903	2:32		
		923	894	2:32		SHOE IN FULL 10
		889	894			" TIE 17

MP 55 Packer Inflation Record

Company: Westbay Instruments Inc.
Site:Bruce, Ont
Description: Packer 17
Well:DGR-2
WB: 860
Comment:

Packer: 0612-567
Packer Depth:587.1 m



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Packer Inflation DGR-2 p17.xls

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MP55 Packer Inflation Field Record

Project: **WB 860**	Client: **OPG**	By: Andrew Bessant	Date: Dec 07/07
Location: **Bruce**	Well No. **DGR-2**	Borehole Diameter:	
Packer No. 17	Depth:	Computer Data File:	.WDF
Inf-Tool No. —	Vent Tool No. —	Volume Pumped: 13	Vol Returned 1.25
H-B Valve: (P_H) —	Offset (P_V). —	Confirm Venting (Vent Tool Data) (Y/N) Y	
Vent Tool Pressure (Shoe Out, P_O) 1002		Final Inf'n Vol: 11.75	Final Press: 1274 (P_F)
Comments:		Calc'd Element Pressure ($P_F + P_V - P_O$) 272	
		Confirm Pkr Valve Closed (Yes/No): Y	

1250

Pumping Information

I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
		855	860			13
		1277	1000	2:42		1.25
1.70	1500	1123	1002	2:44		pump to 1500
2	500	1107	1002	2:45		
3	550	1119	1004	2:47		
4	600	1117	1005	2:48		
5	600	1122	1016	2:50		Vent open
		1120	980	2:50.10		
6	600	1108	928	2:51		Stop pump
7	700	1126	910	2:53		
8	700	1134	900	2:54		
9	700	1143	893	2:55		
10	700	1166	865	2:56		
11	700	1197	863	2:58		
12	800	1254	864	2:59		
		1422	873			
12.5		1373	868	3:00		
		1294	874	3:05		
		1274	876	3:10		
13.0						pump 1000
		856	874	3:13		Vent C
11.75		859	877	3:15		Vent Line

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MP55 Packer Inflation Field Record Part 2

Project: **WB 860** Well No. **DGR-2** Packer No. 17 Date: Dec 7/07

Pumping Information

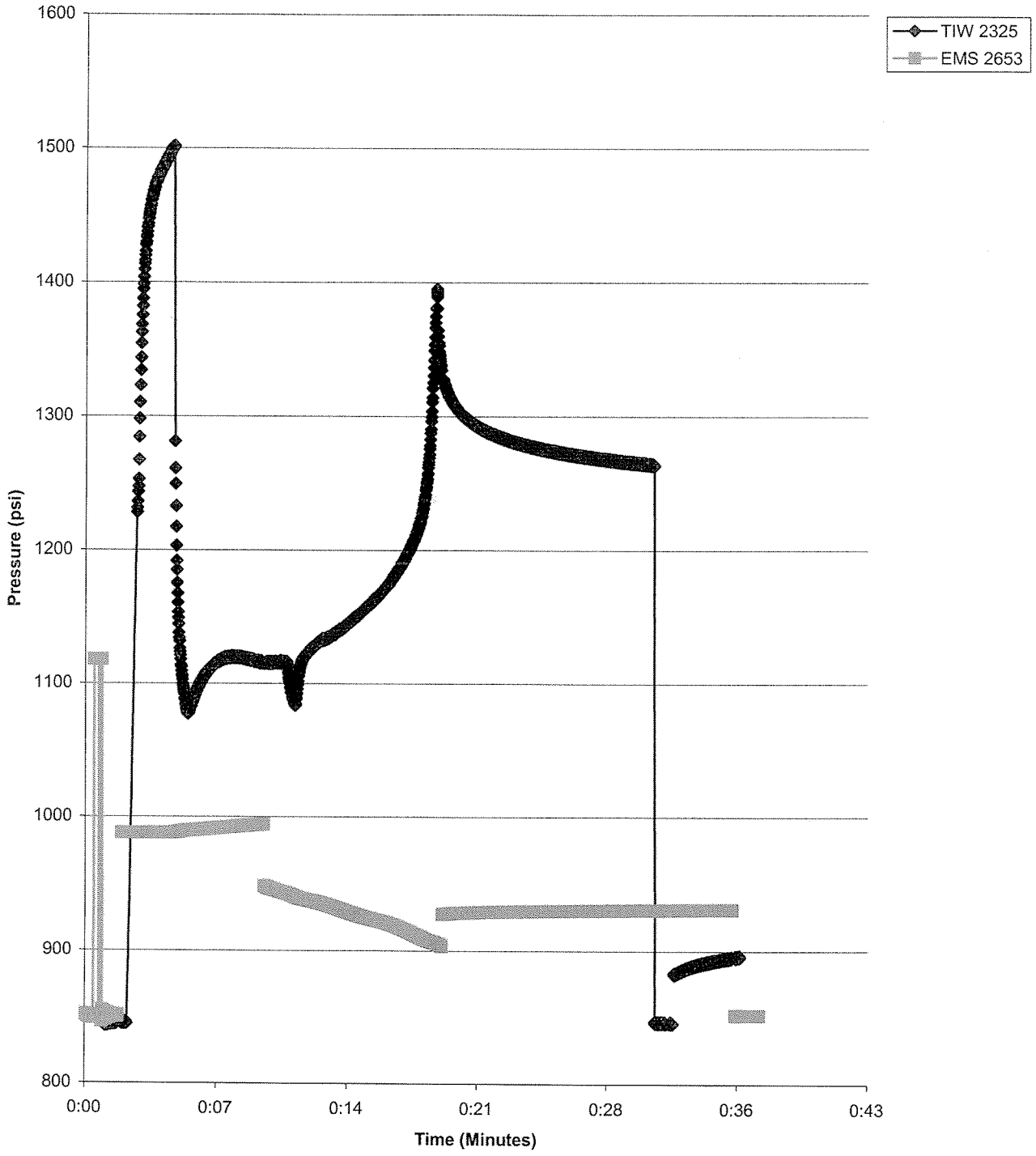
I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
0	0	859	776	3:16		TEO
		8	862	3:21		OA
						SHOE IN 13
		852	862	3:22		SHOE IN 12

MP 55 Packer Inflation Record

Company: Westbay Instruments Inc.
Site:Bruce, Ont
Description: Packer 18
Well:DGR-2
WB: 860
Comment:

Packer: 0612-559
Packer Depth:579.5 m



Packer Inflation DGR-2 p18.xls

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MP55 Packer Inflation Field Record

Project: **WB 860** Client: **OPG**	By: Andrew Bessant Date: Dec 07/07
Location: **Bruce** Well No. **DGR-2**	Borehole Diameter: _____
Packer No. 18 Depth: _____	Computer Data File: _____.WDF
Inf-Tool No. _____ Vent Tool No. _____	Volume Pumped: 13.25 Vol Returned 1.25
H-B Valve: (P_H) _____ Offset (P_V). _____	Confirm Venting (Vent Tool Data) (Y/N) Y
Vent Tool Pressure (Shoe Out, P_O) 988	Final Inf'n Vol: 12.00 Final Press: 1265 (P_F)
Comments: _____	Calc'd Element Pressure ($P_F + P_V - P_O$) 277
_____	Confirm Pkr Valve Closed (Yes/No): Y

1240

Pumping Information

I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
0	0	846	851	3:27		
		"	989	3:28		EMS SHO 12
		1221	"	3:29		TIE SHO 12
1.25	1500					Pump 1500 ✓
		1093	989	3:31		FINE I
2	500	1087	990	3:32		
3	600	1114	991	3:33		
4	600	1118	992	3:34		
5	600	1116	994	3:35		View Open
		1115	948	3:36		
6	600	1116	942	3:32		Stop Pump
		1083	939	3:38		
7	700	1129	936	3:39		
8	700	1137	931	3:40		
9	700	1156	924	3:41		
10	700	1162	922	3:42		
11	800	1192	918	3:43		
12	1213	1215	910	3:44		
		1380	905			
12.9		1348	903			Pump Off Tie Off
			987	3:46		View Close
		1282	929	3:49		OA
13.25	1100	1273	930	3:52		Pump 1100
		1265.7	930	3:56		Tie C

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MP55 Packer Inflation Field Record Part 2

Project: **WB 860** Well No. **DGR-2** Packer No. 18 Date: Dec 07/07

Pumping Information

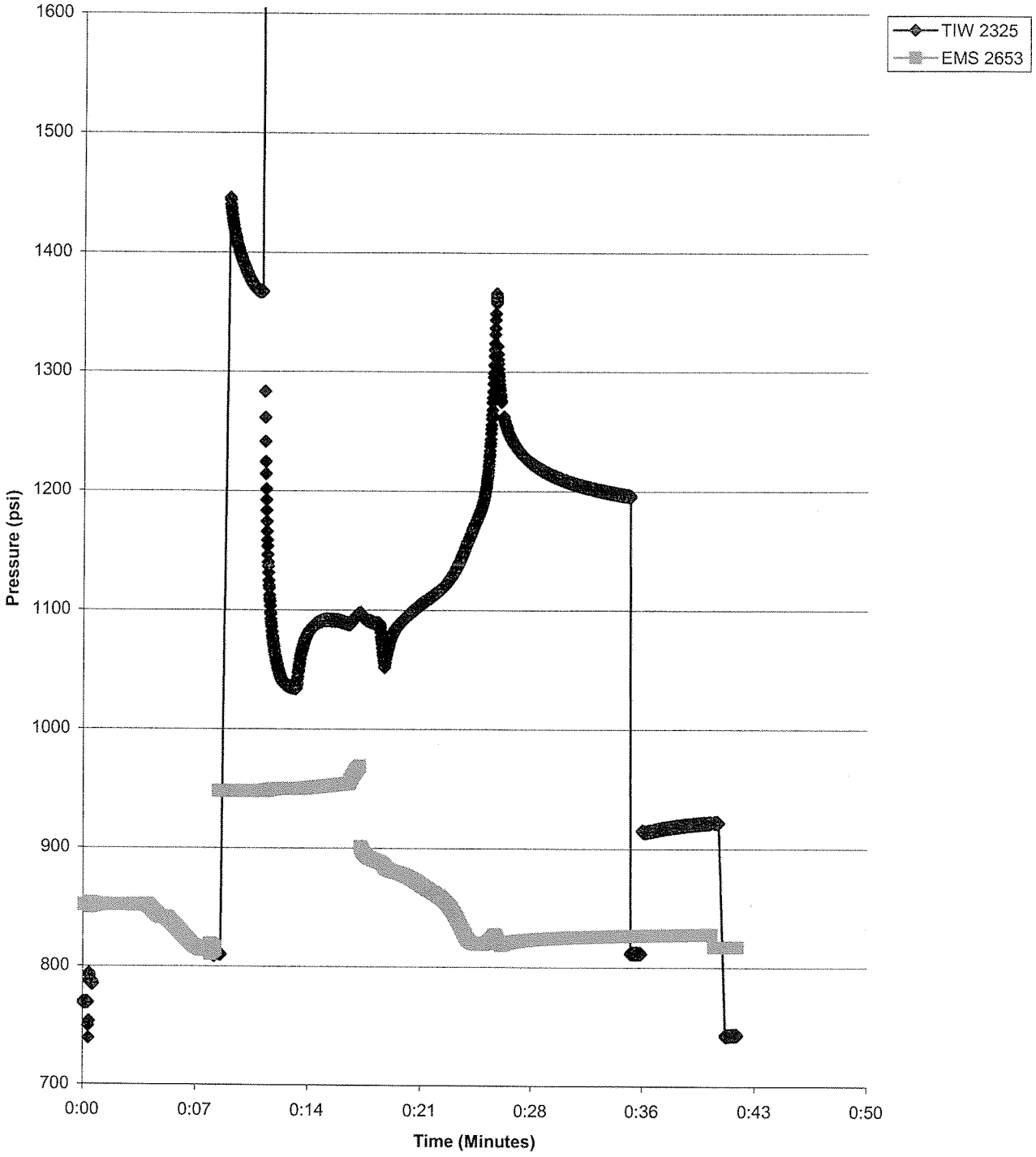
I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
0	0	845	930	3:58		View Line
		884	930	3:59		TIE O
		894	931	4:01		OA
		768	851.78	4:02		SHOE IN FEET 12
						SHOE IN TUBE 17

MP 55 Packer Inflation Record

Company: Westbay Instruments Inc.
Site:Bruce, Ont
Description: Packer 19
Well:DGR-2
WB: 860
Comment:

Packer: 0612-555
Packer Depth:555.4 m



Plot By:_____

Packer Inflation DGR-2 p19.xls

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MP55 Packer Inflation Field Record

Project: **WB 860**	Client: **OPG**	By: Andrew Bessant	Date: Nov 7/07
Location: **Bruce**	Well No. **DGR-2**	Borehole Diameter:	
Packer No. 19	Depth:	Computer Data File:	.WDF
Inf-Tool No.	Vent Tool No.	Volume Pumped: 12.50	Vol Returned 1.25
H-B Valve: (P_H)	Offset (P_V).	Confirm Venting (Vent Tool Data) (Y/N) Y	
Vent Tool Pressure (Shoe Out, P_O) 947		Final Inf'n Vol: 11.25	Final Press: 1200 (P_F)
Comments:		Calc'd Element Pressure ($P_F + P_V - P_O$) 253	
		Confirm Pkr Valve Closed (Yes/No): Y	

1200

Pumping Information

I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
		809	8156			
		11	947			
		1436	947			12
1.75	1500	1367	947	4:14		17 Pump to 1500
		1036	949	4:17		File I
2	500	1065	950	4:17		
3	"	1091	951	4:19		
4	"	1090	953	4:20		
5	"	1095	966	4:20		Vent Open
		1096	902	4:21		
6	600	1089	909	4:22		Stop Pump Fill Tank
		1055	894	4:23		
7	600	1093	877	4:24		
8	600	1104	869	4:25		
9	700	1113	861	4:26		
10	700	1130	845	4:27		
11	800	1164	821	4:28		
12		13				
		1386				
12.5		1302	820			Pump O Tk O
			819	4:30		Vent Close
		1200	826	4:37		QA
12.9	1100	1197	826	4:38		Pump 1000

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MP55 Packer Inflation Field Record Part 2

Project: **WB 860** Well No. **DGR-2** Packer No. 19 Date: Dec 7/07

Pumping Information

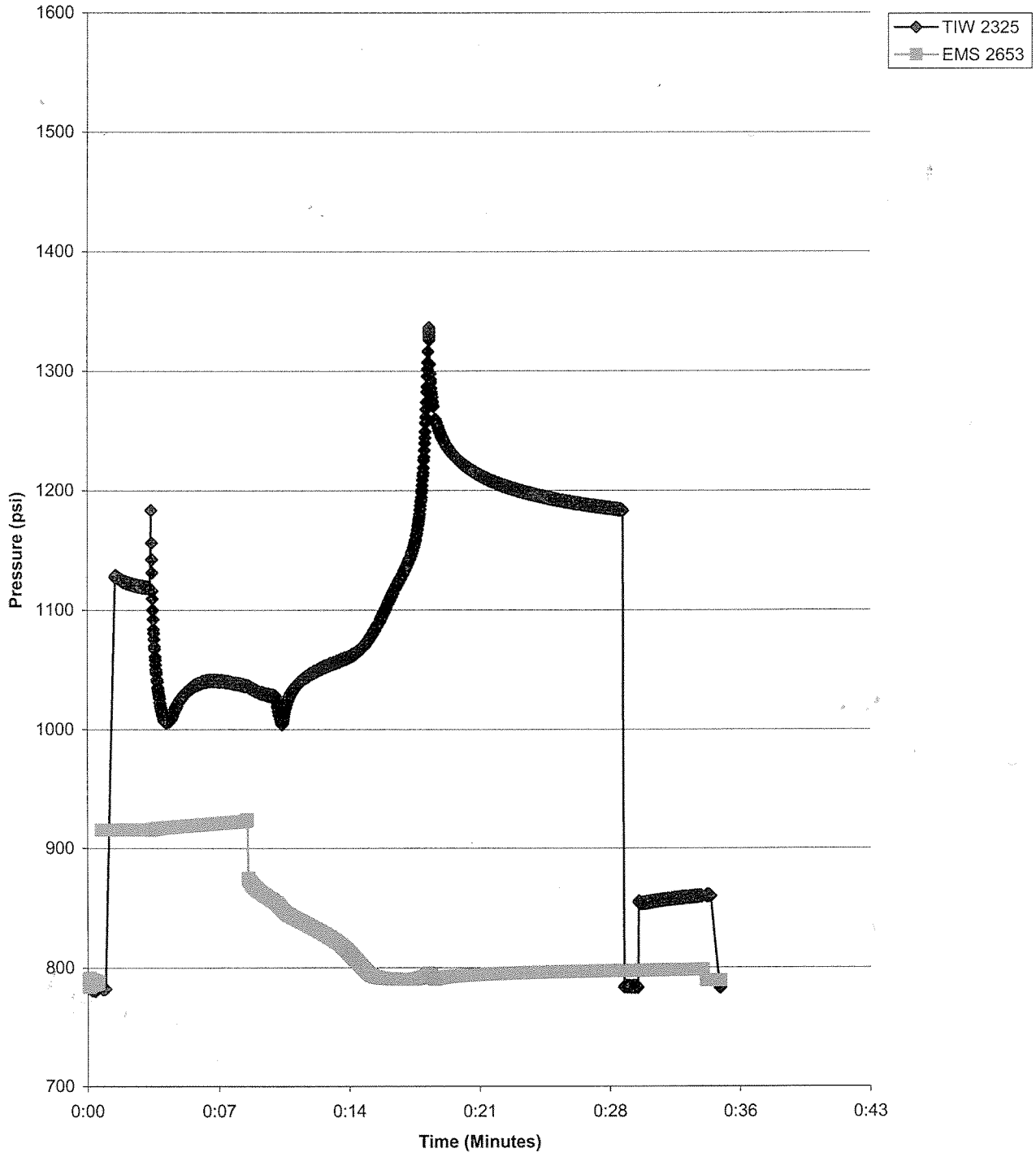
I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
		912	826	4:39		TIE C
11.75	0					Vent Line
		920	826	4:3930		TIE O
		914	827	4:40		QA
		921	827	4:44		P
		~~743~~	817			SHOE IN FMS
		743	817	4:45		" TIE SUCTION
		~~902~~	817	4:46		

MP 55 Packer Inflation Record

Company: Westbay Instruments Inc.
Site:Bruce, Ont
Description: Packer 20
Well:DGR-2
WB: 860
Comment:

Packer: 0612-578
Packer Depth:535.9 m



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Packer Inflation DGR-2 p20.xls

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MP55 Packer Inflation Field Record

Project: **WB 860**	Client: **OPG**	By: Andrew Bessant	Date: Dec 7/07
Location: **Bruce**	Well No. **DGR-2**	Borehole Diameter: —	
Packer No. 20	Depth:	Computer Data File: —	.WDF
Inf-Tool No. —	Vent Tool No. —	Volume Pumped: 13.50	Vol Returned 1.25
H-B Valve: (P_H) —	Offset (P_V). —	Confirm Venting (Vent Tool Data) (Y/N)	Y
Vent Tool Pressure (Shoe Out, P_O) 915		Final Inf'n Vol: 12.25	Final Press: 1187 (P_F)
Comments:		Calc'd Element Pressure ($P_F + P_V - P_O$)	272
		Confirm Pkr Valve Closed (Yes/No):	Y

1160

Pumping Information

I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
0	0	783	787	4:54		
		11	915			
		1125	11	4:55		12 17
1.75	1500					Pump 1500
		1002	917.36	4:58		Start I
2	500	1016	925	4:58		
3	600	1037	919.6	5:00		
4	600	1040	924	5:01		
5	600	1036	923	5:02		Vent Open
		1034	875			
6	600	1027	856	5:03		Stop Pump
		1018	845	5:04		Restart Pump
7	700	1040	838	5:05		
8	700	1051	829	5:06		
9	700	1058	817	5:07		
10	700	1069	800	5:08		
11	700	1092	791	5:10		
12	800	1132	790	5:11		
13.25	800	1346	795	5:12		Pump OFF
		1285	790			Vent OFF
			790	5:13		Vent Close
		1206	794	5:16		
		1187.91	797	5:23		
13.50	1100					Pump to 1000

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MP55 Packer Inflation Field Record Part 2

Project: **WB 860** Well No. **DGR-2** Packer No. 20 Date: Dec 7/07

Pumping Information

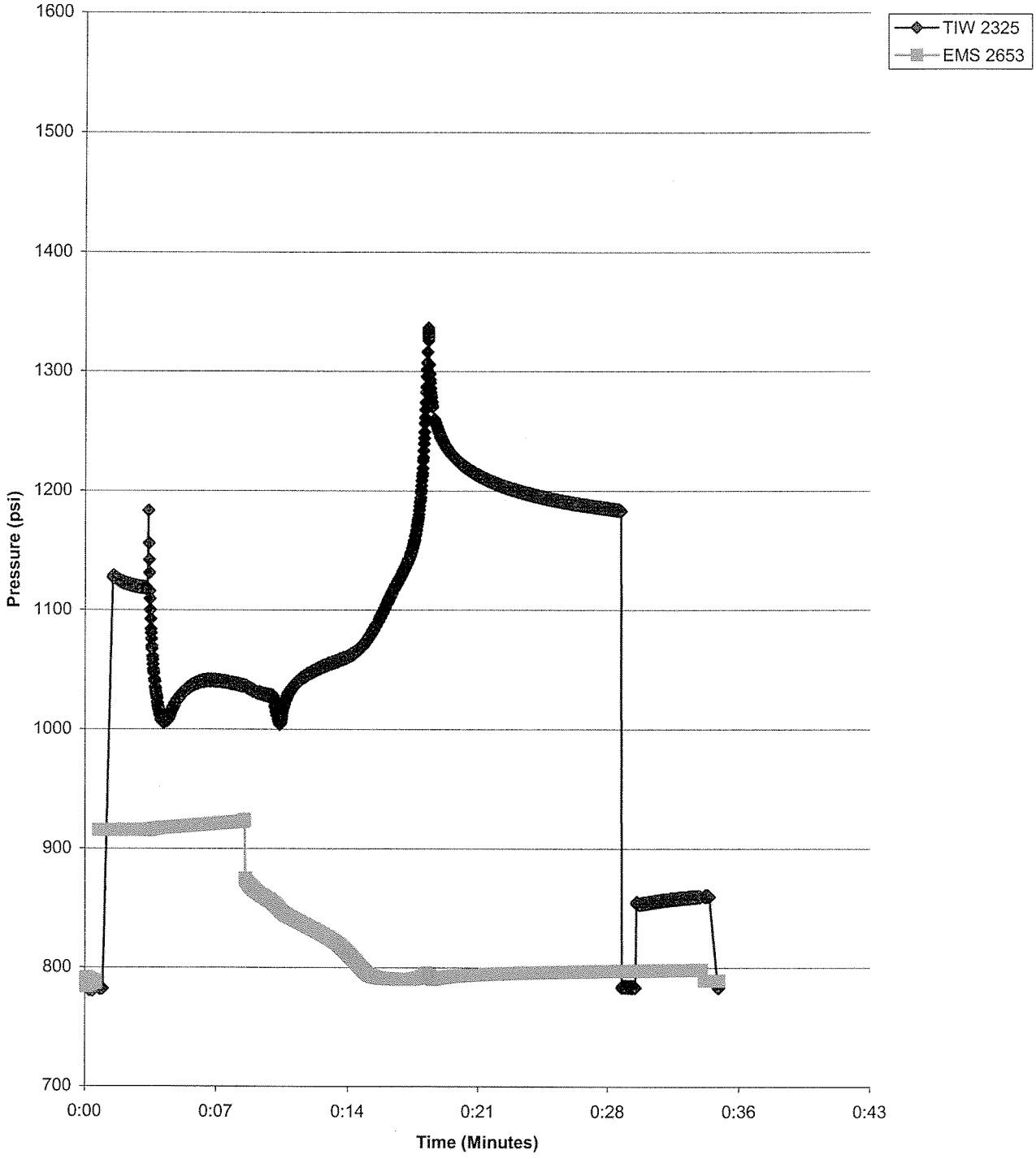
I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
		~~853~~	~~[illegible]~~	5:24		TIE O
		854	~~[illegible]~~	5:25		QA
		860	~~[illegible]~~	5:27		
		"	789			SHOE IN EMS 12
		754	"			" THE SECTION
		784	789	5:28		

MP 55 Packer Inflation Record

Company: Westbay Instruments Inc.
Site:Bruce, Ont
Description: Packer 21
Well:DGR-2
WB: 860
Comment:

Packer: 0612-583
Packer Depth:516.3 m



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Packer Inflation DGR-2 p21.xls

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MP55 Packer Inflation Field Record

Project: **WB 860** Client: **OPG**	By: Andrew Bessant Date: Dec 7/00
Location: **Bruce** Well No. **DGR-2**	Borehole Diameter: —
Packer No. 21 Depth: —	Computer Data File: — .WDF
Inf-Tool No. — Vent Tool No. —	Volume Pumped: 14.2 Vol Returned 1.20
H-B Valve: (P_H) — Offset (P_V). —	Confirm Venting (Vent Tool Data) (Y/N) Y
Vent Tool Pressure (Shoe Out, P_O) 883	Final Inf'n Vol: 13.0 Final Press: 1185 (P_F)
Comments:	Calc'd Element Pressure ($P_F + P_V - P_O$) 302
	Confirm Pkr Valve Closed (Yes/No): Y

1130

Pumping Information

I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
0	0	755				
		~~1475~~	883	5:39		12
		1475	11	5:40		12
1.75	1500	~~1499~~	11	5:41		Pump 1500
		1050	884	5:41 30		Time ✓
2	500	1001	885	5:42		
3	500	1019	887	5:43		
4	600	1023	889	5:45		
5	600	1019	833	5:46		Vent open
		1019	824			
6	600	1019	810			Stop Pump Fill Tank
		982	809	5:49		Start
7	700	1031	803	5:50		
8	700	1036	795	5:51		
9	700	1040	789	5:52		
10	700	1047	781	5:53		
11	700	1064	767	5:54		
12	700	1076	763	5:55		
13.9		1309	763	5:56		
		1254	761			Vent Close
		1204	761	6:01		
		1186	763	6:06		
14.20	1100	1195	11	6:06 30		Pump To 1000
		756	11			Fill C

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MP55 Packer Inflation Field Record Part 2

Project: WB 860 Well No. DGR-2 Packer No. 2 Date: Dec 03/07

Pumping Information

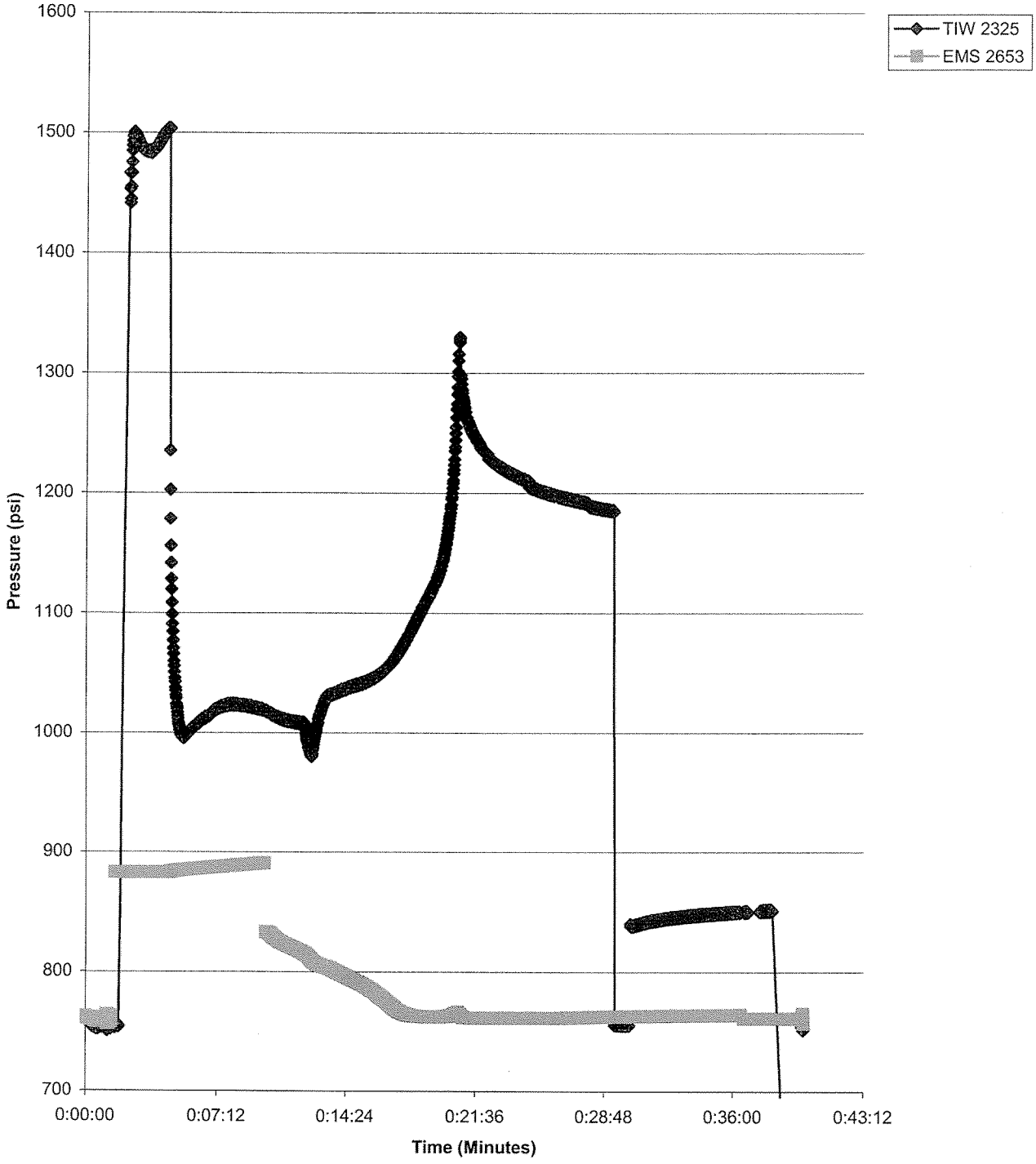
I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
12.0	0					Vent Line
		845	763	6:07		Tie O
		846	763	6:02		QA
		849	764	6:13		Shoe In Packs 11
						" Tie
		696	761			

MP 55 Packer Inflation Record

Company: Westbay Instruments Inc.
Site:Bruce, Ont
Description: Packer 22
Well:DGR-2
WB: 860
Comment:

Packer: 0612-552
Packer Depth:495.2 m



Plot By:_____

Packer Inflation DGR-2 p22.xls

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MP55 Packer Inflation Field Record

Project: **WB 860**	Client: **OPG**	By: Andrew Bessant	Date: Dec 07/00
Location: **Bruce**	Well No. **DGR-2**	Borehole Diameter:	
Packer No. 22	Depth:	Computer Data File:	.WDF
Inf-Tool No.	Vent Tool No.	Volume Pumped: 13.1	Vol Returned 1.1
H-B Valve: (P_H)	Offset (P_V).	Confirm Venting (Vent Tool Data) (Y/N)	Y
Vent Tool Pressure (Shoe Out, P_O) 847		Final Inf'n Vol: 12.0	Final Press: 1140 (P_F)
Comments:		Calc'd Element Pressure ($P_F + P_V - P_O$) 293	
		Confirm Pkr Valve Closed (Yes/No): Y	

1100

Pumping Information

I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
		725	729	6:24		
		"	847			EMS SHO 12
		1292	"			TIE SHO 17
1.75	1500	1322	847			Pump to 1500
		970	849			Tie I ✓
2	500	948	850	6:28		
3	600	972	851	6:30		
4	600	973	853	6:31		
5	600	974	855	6:32		Vent Open
		974	816	6:33		
6	600	968	798	6:34		Stop Pump Free Tank
		941	788	6:35		
7	700	980	779	6:36		
8	700	987	770	6:37		
9	700	996	758	6:38		
10	700	1012	745	6:39		
11	800	1046	734	6:40		
12	900	1090	730	6:41		
12.75	900	1260	740	6:42		Pump OFF TIE O
		1202	732	6:42		
		1186	732	6:43		Vent Close
		1152	734	6:47		QA
		1140	735	6:53		
13.1	1100	1138	"	6:53		Pump to 1000

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MP55 Packer Inflation Field Record Part 2

Project: **WB 860** Well No. **DGR-2** Packer No. 22 Date: Dec 01/02

Pumping Information

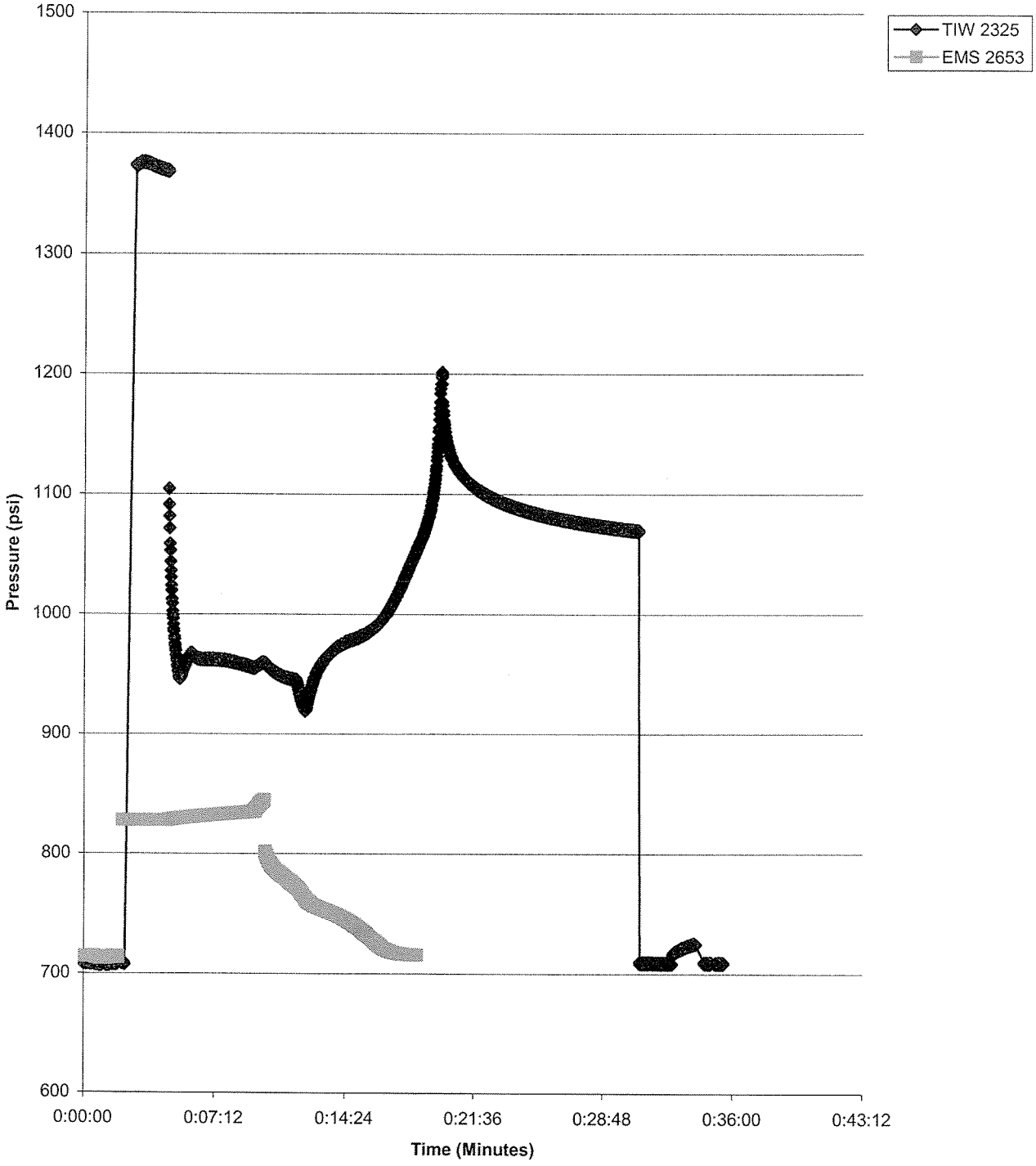
I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
~~0~~	~~0~~	725	735	6:54		TIE C
120		725	733			Vent Line
~~121~~		831	"	6:54:30		TIE O
		835	736	6:55		QA
		839	"	6:57		
		"	731	6:59		SHOE IN IGAS
		726	731	7:00		" TIE
						END

MP 55 Packer Inflation Record

Company: Westbay Instruments Inc.
Site:Bruce, Ont
Description: Packer 23
Well:DGR-2
WB: 860
Comment:

Packer: 0612-587
Packer Depth:483.2 m



Plot By:_____

Packer Inflation DGR-2 p23.xls

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MP55 Packer Inflation Field Record

Project: **WB 860** Client: **OPG**	By: Andrew Bessant Date: June 7/05
Location: **Bruce** Well No. **DGR-2**	Borehole Diameter:
Packer No. 23 Depth:	Computer Data File: .WDF
Inf-Tool No. — Vent Tool No. —	Volume Pumped: 13.5 Vol Returned 1.25
H-B Valve: (P_H) — Offset (P_V). —	Confirm Venting (Vent Tool Data) (Y/N) Y
Vent Tool Pressure (Shoe Out, P_O) 827	Final Inf'n Vol: 12.25 Final Press: 1075 (P_F)
Comments:	Calc'd Element Pressure ($P_F + P_V - P_O$) 248
	Confirm Pkr Valve Closed (Yes/No): Y

1050

Pumping Information

I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
0	0	708	—			
			827			SHO Pres 12
		1875	827+			SHO TIK 12
1.75	1500					Pump 1500
2		962	831	7:55		TIK C
3	600	962	831	7:56		
4	600	958	833	7:57		
5	600	958	833	7:58		Vent Open
		956	803	7:59		
6	600	947	780	8:00		Stop Pump
		918	762	8:01		Shut
7	700	950	755	8:02		
8	700	974	747	8:03		
9	700	980	737	8:04		
10	700	991	723	8:05		
11	700	1020	716	8:06		
12	800	1057	715	8:07		
13	800	1197	720	8:08		
		1121	718	8:09		Pump OFF TIK OFF
		1103	716	8:11		Vent Close
		1075	719	8:19		SA
13.5	1000	—	—	—		Pump 1500
						TIK C
12.25		—	—			Vent Close

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MP55 Packer Inflation Field Record Part 2

Project: WB 860   Well No. DGR-2   Packer No. 23   Date: Dec 9/07

Pumping Information

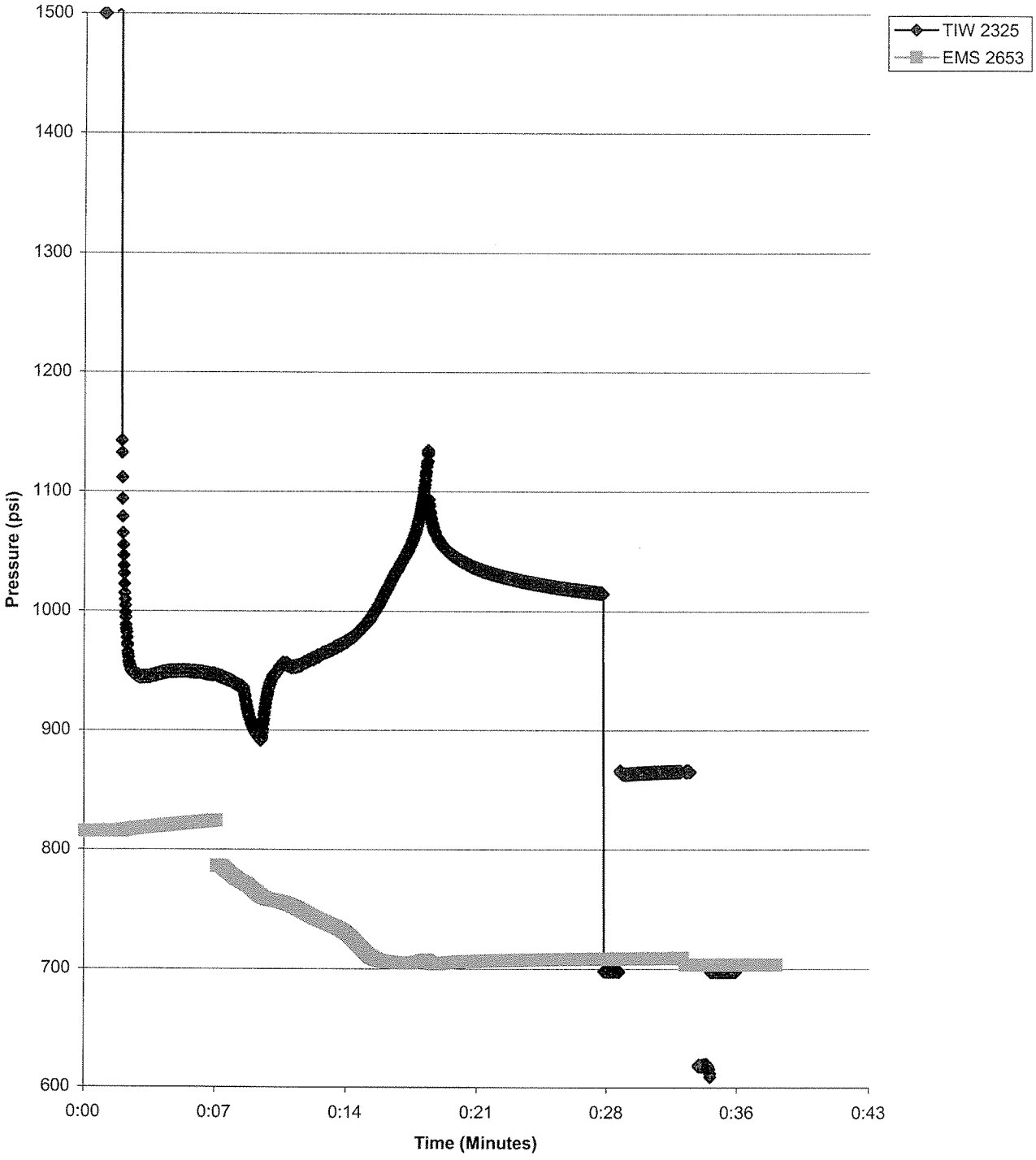
I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
		704	714			ZERO
		—	—			
		708	714			Final
						Turned Shut Down
						For the night

MP 55 Packer Inflation Record

Company: Westbay Instruments Inc.
Site:Bruce, Ont
Description: Packer 24
Well:DGR-2
WB: 860
Comment:

Packer: 0612-570
Packer Depth:475.7 m



Plot By:_____

Packer Inflation DGR-2 p24.xls

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MP55 Packer Inflation Field Record

Project: **WB 860** Client: **OPG**	By: Andrew Bessant Date: Dec 8/00
Location: **Bruce** Well No. **DGR-2**	Borehole Diameter: —
Packer No. 24 Depth: —	Computer Data File: — .WDF
Inf-Tool No. — Vent Tool No. —	Volume Pumped: 14.2 Vol Returned 1.20
H-B Valve: (P_H) — Offset (P_V). —	Confirm Venting (Vent Tool Data) (Y/N) Y
Vent Tool Pressure (Shoe Out, P_O) 815	Final Inf'n Vol: 13.30 Final Press 1016 (P_F)
Comments:	Calc'd Element Pressure ($P_F + P_V - P_O$) 201
	Confirm Pkr Valve Closed (Yes/No):

1020

Pumping Information

I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
0	0	697	703	8:31		
			815			Fins 12
		1516/19				Tie 17
1.75		1022	816	8:35 am		pump 1500
2		980	817	8:35 30		
3	600	948	819	8:37 am		
4	600	949	820	8:39		
5	600	942	824	8:40		Vent Open
		945	826	8:40 10		
6	600	947	762			Stop pump
		891	760	8:43		Start pump
7	700	953	756	8:44		
8	700	953	749	8:45		
9	700	964	740	8:46		
10	700	972	731	8:47		
11	800	988	713	8:48		
12	800	1020	705	8:50		
13	800	1053	704	8:51		
13.75		1123	705			Pump off Tie off
		1022	704	8:52		Vent close
		1026	707	8:55		QA
		1018.6	703	9:02		
14.20	1000	1016	708	9:02		pump to 1000
		699	707	9:02 30		Tie C

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MP55 Packer Inflation
Field Record Part 2

Project: **WB 860** Well No. **DGR-2** Packer No. 24 Date: Dec 8

Pumping Information

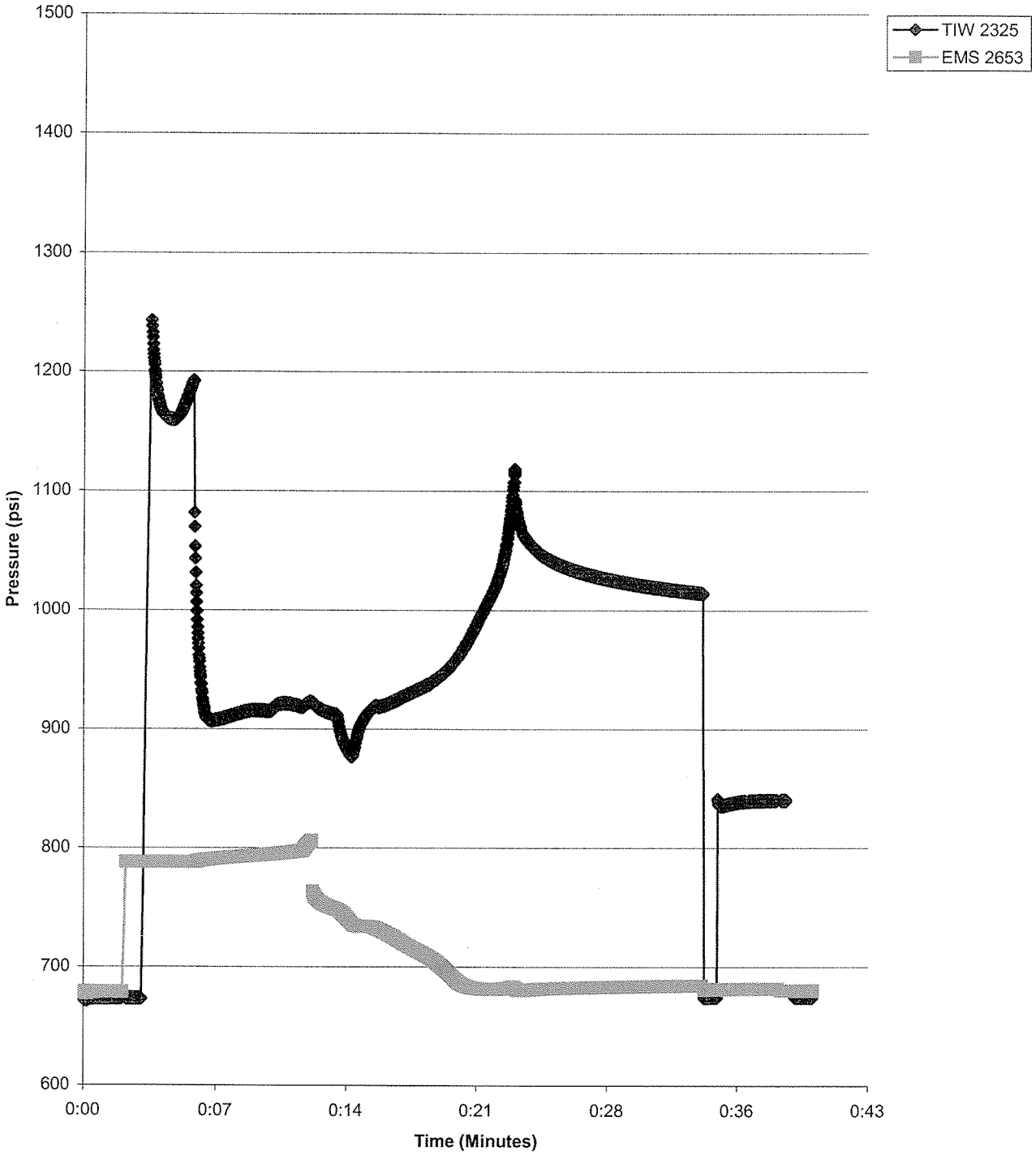
I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
13.30	0					Vent Line
		880	705	9:03		TIE O
		864	708			9K
		866	709	9:06		
		〃	703			SHOE IN ITEMS 13
		615	〃			〃 TIE 17 SECTION
		598	703	9:07		END

MP 55 Packer Inflation Record

Company: Westbay Instruments Inc.
Site:Bruce, Ont
Description: Packer 25
Well:DGR-2
WB: 860
Comment:

Packer: 0612-566
Packer Depth:459.1 m



Plot By:_____

Packer Inflation DGR-2 p25.xls

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MP55 Packer Inflation Field Record

Project: **WB 860** Client: **OPG**	By: Andrew Bessant Date: Dec 8/07
Location: **Bruce** Well No. **DGR-2**	Borehole Diameter: —
Packer No. 25 Depth: —	Computer Data File: — .WDF
Inf-Tool No. — Vent Tool No. —	Volume Pumped: 1.50 Vol Returned 1.25
H-B Valve: (P_H) — Offset (P_V). —	Confirm Venting (Vent Tool Data) (Y/N) Y
Vent Tool Pressure (Shoe Out, P_O) 788	Final Inf'n Vol: 1.25 Final Press 1014 (P_F)
Comments:	Calc'd Element Pressure ($P_F + P_V - P_O$) 226
	Confirm Pkr Valve Closed (Yes/No): Y

1000

Pumping Information

I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
0	0	673.4	679.04	9:17		
		"	788			Time 13
		1250	"	9:19		Time 17
1.75	1500					pump 1500
		972	789	9:22		Time 2
2	600	907	791	9:23		
3	600	914	793	9:25		
4	600	920	795	9:26		
5	600	921	802	9:28		Vent open
		918	755	9:28:10		
6	600	913	745	9:25		Stop pump Turn Trunk
		894	734	9:30		Select Pump
7	700	916	733	9:31		
8	700	920	723	9:32		
9	700	932	712	9:34		
10	700	943	701	9:35		
11	800	970	701	9:36		
12	800	1006	691	9:38		
13.0		1103	683	9:39		Stop pump / Turn off
		1062	680	9:40		Vent Close
		1029	683	9:45		QA
		1016	684	9:48		
13.50	1000	1014	684	9:49		pump 1000
		674	681	9:50		Vent C

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MP55 Packer Inflation Field Record Part 2

Project: **WB 860** Well No. **DGR-2** Packer No. 2S Date: _____

Pumping Information

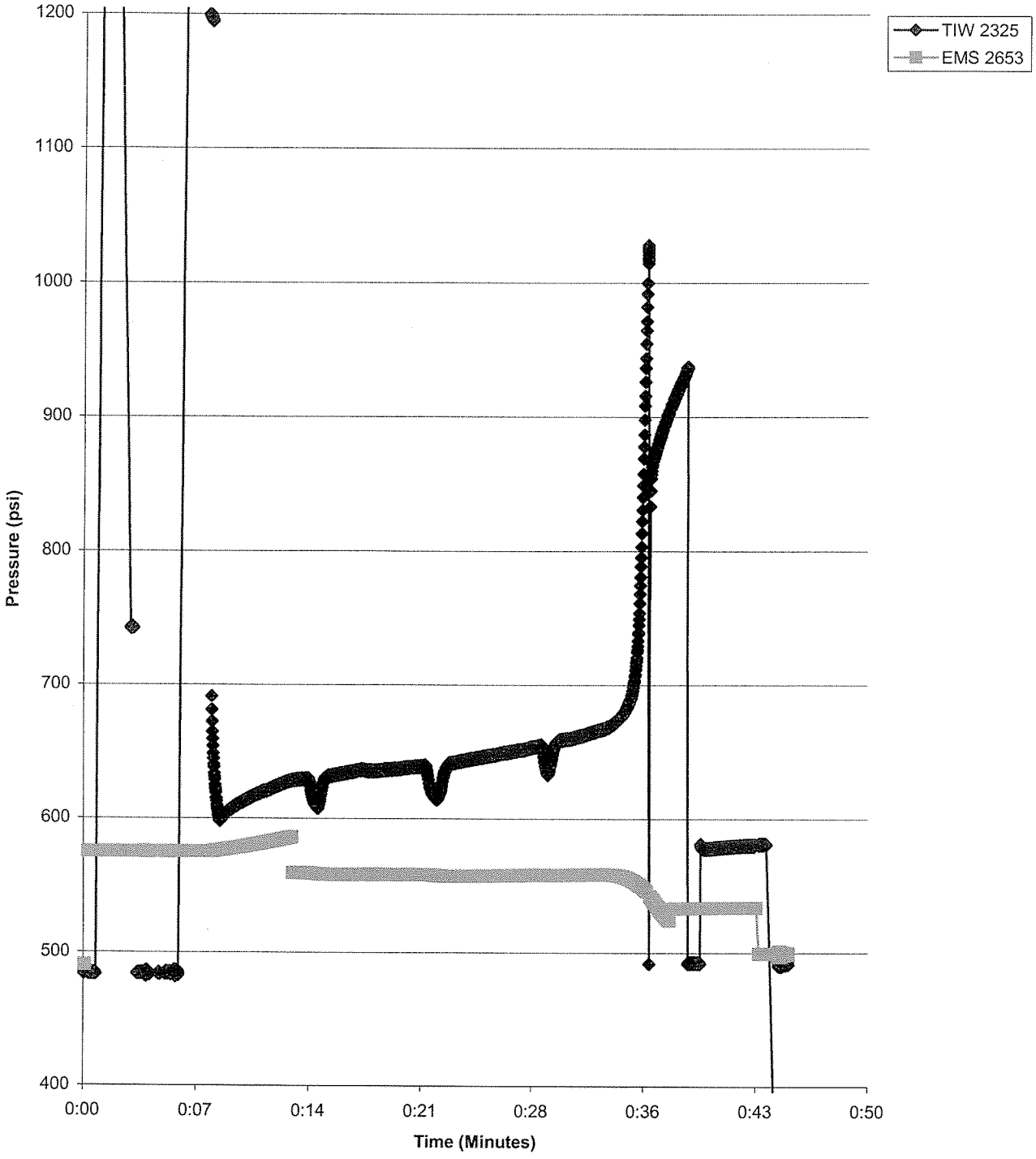
I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
12.25	0	836	681	9:51am		Vent Line
		839	681	9:52am		TIE O
		840	680	9:54		SHOE IN FAN 13
		684	670	9:55		SHOE IN TIE
		675	"	9:56		
		674	680	9:56		END

MP 55 Packer Inflation Record

Company: Westbay Instruments Inc.
Site:Bruce, Ont
Description: Packer 26
Well:DGR-2
WB: 860
Comment:0618

Packer: 0618-053
Packer Depth:330.8 m



Plot By:_____

Packer Inflation DGR-2 p26.xls

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MP55 Packer Inflation Field Record

Project: **WB 860** Client: **OPG**	By: Andrew Bessant Date: Dec 8/07
Location: **Bruce** Well No. **DGR-2**	Borehole Diameter: —
Packer No. 26 Depth: _____	Computer Data File: — .WDF
Inf-Tool No. — Vent Tool No. —	Volume Pumped: 24 Vol Returned .75
H-B Valve: (P_H) — Offset (P_V). —	Confirm Venting (Vent Tool Data) (Y/N) Y
Vent Tool Pressure (Shoe Out, P_O) 575	Final Inf'n Vol: 23.25 Final Press: 934 (P_F)
Comments: 618	Calc'd Element Pressure ($P_F + P_V - P_O$) 359
	Confirm Pkr Valve Closed (Yes/No): Y

575

Pumping Information

I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
0	0	485	490	11:31		
		11	575	11:38		Tens 14
		1307	11	11:45		Tens 17
1.1	1000			11:46		pump too 1000 / Line T
2	600	606	577	11:47		
3	600	614	580	11:49		
4	600	620	583	11:50		
5	600	626	585	11:51		Vent open
6	700	629	589	11:52		Stop pump Fill
7	700	631	11	11:54		
8	700	634	588	11:55		
9	700	635	11	11:56		
10	700	637	11	11:57		
11	700	637	11	11:59		
12	700	638	11	12:00		Stop pump Fill
13	700	641	587	12:02		
14	700	643	587	12:03		
15	700	646	11	12:04		
16	700	649	11	12:05		
17	700	651	11	12:06		
18	700	653	588	12:07		Stop pump Fill
19	700	658	589	12:09		
20	800	662	11	12:10		
21	800	665	11	12:11		

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MP55 Packer Inflation Field Record Part 2

Project: WB 860 Well No. DGR-2 Packer No. 26 Date: Dec 8/07

875

Pumping Information

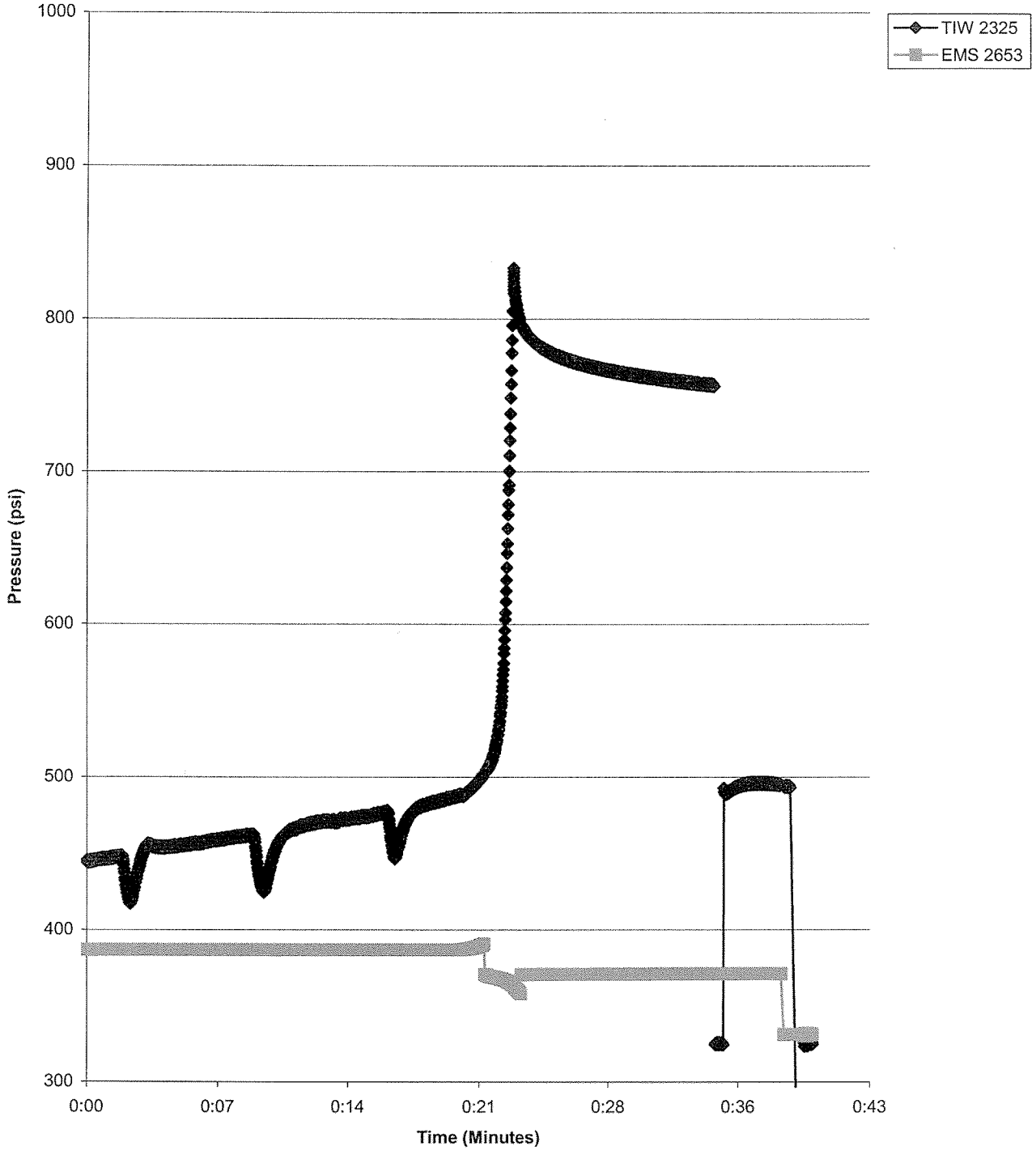
I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
22	800	670	558	12:12		
23	850	687	554	12:13		
24	900	898	525	12:15		Stop pump TIE OFF
		911	533	12:16		Vent close
		934	"			pump 1000
		493	"	12:17		TIE CLOSE
			"			~~pump 90~~
23.25	0		"			Vent line
		591	"	12:21		TIE O
	#24	Went from TIE I to				TIE C (mistake)
		Then to TIE O				
		580	499.4	12:22		SHOE IN EMS 14
		392	499.55	12:23		SHOE IN TIE SUCTION
		491	499	12:23		END

MP 55 Packer Inflation Record

Company: Westbay Instruments Inc.
Site:Bruce, Ont
Description: Packer 27
Well:DGR-2
WB: 860
Comment:0618

Packer: 0618-055
Packer Depth:217.7 m



Plot By:_____

Packer Inflation DGR-2 p27.xls

1/14/2008

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MP55 Packer Inflation Field Record

Project: **WB 860**	Client: **OPG**	By: Andrew Bessant	Date: Dec 8/07
Location: **Bruce**	Well No. **DGR-2**	Borehole Diameter:	
Packer No. 27	Depth:	Computer Data File:	.WDF
Inf-Tool No.	Vent Tool No.	Volume Pumped: 24	Vol Returned 1.0
H-B Valve: (P_H)	Offset (P_V).	Confirm Venting (Vent Tool Data) (Y/N) Y	
Vent Tool Pressure (Shoe Out, P_O) 386		Final Inf'n Vol: 23	Final Press: 680 (P_F)
Comments: 618		Calc'd Element Pressure ($P_F + P_V - P_O$) 964	
		Confirm Pkr Valve Closed (Yes/No): Y	

680

Pumping Information

I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
0	0	323				
			386.73	1:35		13
		976				12
1.0	1000	980	386.7	1:37		Pump 1000
						Inf 2 ✓
2	600	435	386	1:39		
3	700	439	386	1:40		
4	700	444	"	1:42		
5	"	445	"	1:43		
6	"	447	"	1:44		Stop pump
7	"	454	"	1:45		
8	"	454	"	1:46		
9	"	456	"	1:48		
10	"	458	"	1:49		
11	"	460	"	1:50		
12	"	462	"	1:51		Stop pump
13	"	462	"	1:53		
14	"	469	"	1:54		
15	"	471	"	1:55		
16	800	472	"	1:56		
17	"	475	"	1:57		
18	"	476	"	1:58		Stop pump
19	"	479	"	2:00		
20	"	484	"	2:01		

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MP55 Packer Inflation Field Record Part 2

Project: **WB 860** Well No. **DGR-2** Packer No. 27 Date: Dec 8/07

Pumping Information

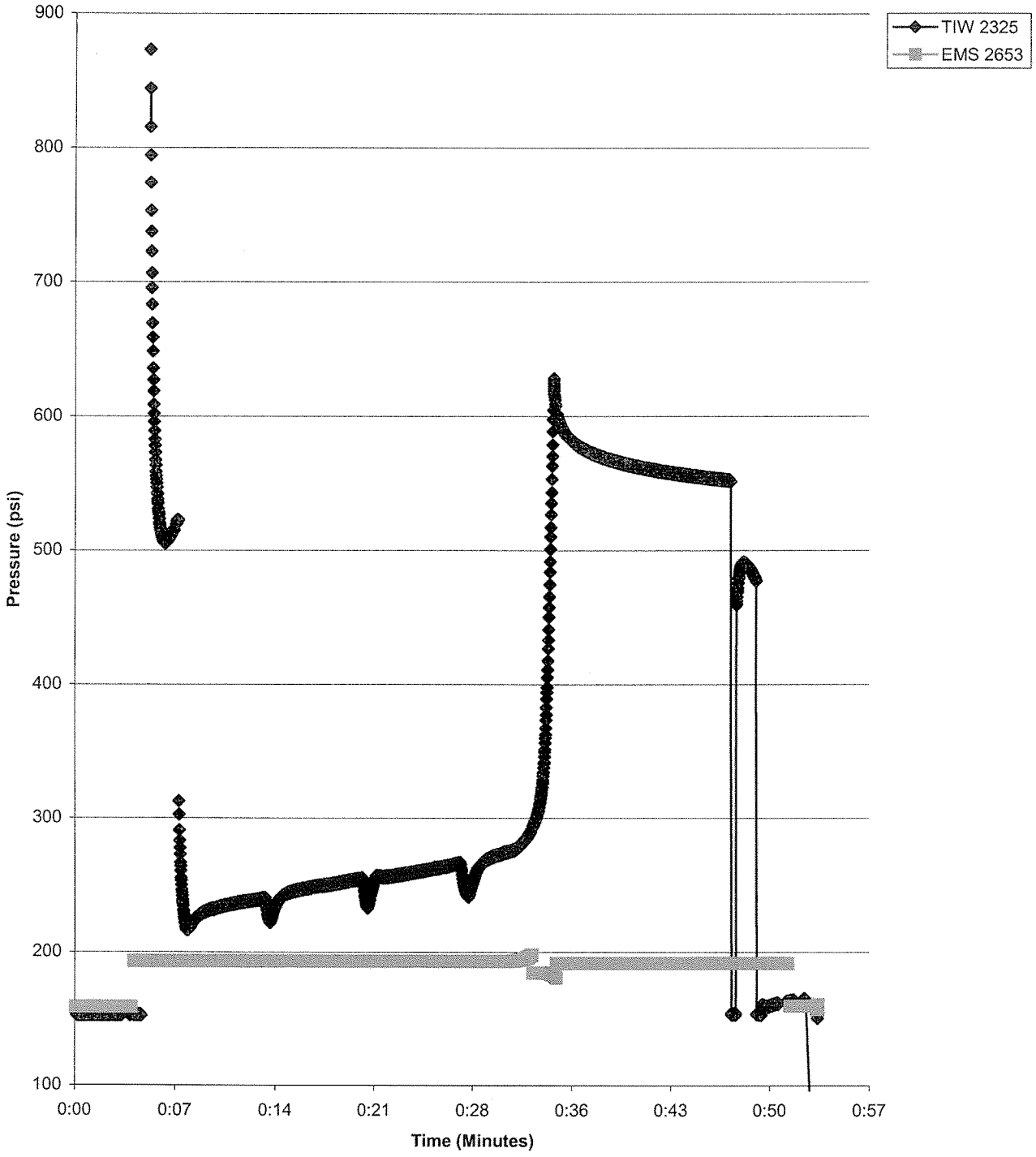
I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
21	800	487	386.9	2:07		
22	800	454	388.5	2:03		
23	800	527	368.5	2:05		Vent Open
24.0	800	508	359	2:06		Pump off Vent Off
						Vent Close
		789	370	2:06		QA
		759	371	2:16		
24.0	1000	787	371	2:16		pump to 1000
		326	"	2:17		Vent Close
23.0			"			Vent Line
		499	"	2:17		Vent O
		452	"	2:19		
		494	"	2:22		SHOE IN FMS
		493	331	2:22:30		SHOE IN Vent
		244	"			Suction
		325	331	2:23		END

MP 55 Packer Inflation Record

Company: Westbay Instruments Inc.
Site:Bruce, Ont
Description: Packer 28
Well:DGR-2
WB: 860
Comment:0618

Packer: 0618-054
Packer Depth:101.6 m



Plot By:_____

Packer Inflation DGR-2 p28.xls

1/14/2008

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MP55 Packer Inflation Field Record

Project: **WB 860** Client: **OPG**	By: Andrew Bessant Date: Dec 08/04
Location: **Bruce** Well No. **DGR-2**	Borehole Diameter: —
Packer No. 28 Depth: 104m	Computer Data File: — .WDF
Inf-Tool No. — Vent Tool No. —	Volume Pumped: 23.5 Vol Returned 1.0
H-B Valve: (P_H) — Offset (P_V). —	Confirm Venting (Vent Tool Data) (Y/N) Y
Vent Tool Pressure (Shoe Out, P_O) 193	Final Inf'n Vol: 22.5 Final Press: 554 (P_F)
Comments:	Calc'd Element Pressure ($P_F + P_V - P_O$) 361
	Confirm Pkr Valve Closed (Yes/No): Y

500

Pumping Information

I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
0	0	153	159	2:45		
	"	"	193	2:47		FMS 14
		990	193			TIF 18
1.1						pump 1000
2	700	236	193	2:50		TIF I ✓
2	700	226	193	2:51		
3	"	233	193	2:52		
4	"	235	"	2:53		
5	"	238	"	2:54		
6	"	240	"	2:55		Stop Pump
7	"	243	"	2:57		
8	"	247	"	2:58		
9	"	248	"	2:59		
10	"	249	"	3:00		
11	"	253	"	3:01		
12	"	254	"	3:02		Stop Pump
13	"	255	"	3:04		
14	"	256	"	3:05		
15	"	258	"	3:06		
16	"	261	"	3:07		
17	"	263	"	3:08		
18	"	266	"	3:09		Stop Pump
19	300	266	"	3:11		
20	"	271	"	3:12		

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MP55 Packer Inflation Field Record Part 2

Project: WB 860 Well No. DGR-2 Packer No. 28 Date: Dec 7/07

500

Pumping Information

I = Inflate, O = Off, C = Close

Volume (litres)	Pressure			Clock	Comments	
	Line (psig)	Inf. Tool (psia)	Vent Tool (psia)		Tag No.	Text
21	800	276	193	3:13		
22	"	277	197	3:15		184 Vent Open
23	900	351	184	3:16		
23.5		597	182	3:17		pump off / TIR off
		591	191	3:18		Vent Close
		559	191	3:23		PA
		554	191	3:27		
		161	191.9	3:32		pump 1000
		158	191.83	3:33		TIR OFF
22.5						Vent Line
		161	159			Shorin Fms 14
		98	159			" THE SUCTION
		152	159	3:36		END

APPENDIX D

Westbay MOSDAX Pressure Probe Installation Report – DGR-2

Westbay Instruments Inc.
3480 Gilmore Way, Suite 110
Burnaby, BC V5G 4Y1
Canada
Tel. (604) 430-4272
Fax (604) 430-3538

Schlumberger
WATER SERVICES

MOSDAX INSTALLATION REPORT

MP55 Monitoring Well: DGR-02

Bruce, Ontario

OPG

Deep Geologic Repository Investigation

Ontario, Canada

Prepared for:

Intera Engineering Ltd.
Canada

Prepared by:

Westbay Instruments Inc.
WB 860
March 27, 2008

CONTENTS:

APPENDIX

MOSDAX String: DGR-02

1. Introduction

This report and the attached Appendix document the technical services carried out by Westbay Instruments Inc. under Intera P.O. # 06-219.30.30.05D A Westbay MP 55 MOSDAX string was installed in borehole DGR-02 in Bruce, Ontario.

Westbay technical services representative Mr. Andrew Bessant was on site for the installation from March 3 to 4, 2008. This report documents the MOSDAX installation tasks and related QA checks.

1.1 Pre-Installation Profile

A pre-installation pressure profile was carried out at the well prior to lowering the MOSDAX transducers to obtain current pressure readings to assist in the installation of the MOSDAX String. The data for the pre-installation profile are located in the Appendix (Figure 1) and on the Field Data and Calculation Sheet.

2. Installation

The MOSDAX String was installed in borehole DGR-02. Ten pressure probes (EM 3904, 3903, 3899, 3897, 3896, 3895, 3894, 3891, 3890, 3889) and one data logger (MAGI 3875) were used in the installation. The MOSDAX pressure probes were located at Measurement Ports as requested by Intera. A summary of the MOSDAX probe installation data is shown on the MOSDAX Probe String Installation Field Record sheet in the Appendix.

The MOSDAX cable fabrication sheet is in the Appendix.

Mr. Dominic Ritgen of Intera was on site to supervise the installation. Mr. Ritgen was trained in the operation and maintenance of MOSDAX Strings. The current versions of Westbay Software (MLog and WinGT) were installed on his notebook PC. However, the PC was not equipped to support direct serial communications as required to operate the MAGI logger. A Westbay PC was used for the installation tasks. Mr. Ritgen planned to provide a suitable alternative PC later.

The MAGI Data logger was set-up using Westbay's interface program MLog. Table 1 shows the chosen settings for DGR-02 for system operations check and QA from March 4 to 6, 2008.

Table 1 Data Logger Settings

Item	Setting	Comments
Scan Rate:	00:05:00	5 minutes
Collect Rate:	00:05:00	5 minutes
Duration:	99:99:99	Continuous
Start Time:	March 4, 2008 / 1152 Hr	Logger Time
Power Save	Yes	Long Term Monitoring
Beeper	Yes	Gated / Secured Site, Beeper Ok
External Power	12 V	100 Amp Hrs

An external battery and charger were sourced locally by Westbay for the installation.

3. System Operations Check

Following 2 days of operation (March 6, 2008) the MAGI logger and MOSDAX string were checked for proper operations. All functions were correct and operating as expected. The data file was downloaded from the MAGI and saved as WDF 2008 03-06–09-44.WD2. The results are given in Figure 2 in the Appendix.

The MAGI Data logger settings were changed using Westbay's interface program MLog for long term un-attended logging. The chosen settings used for DGR-02 as requested by the client are shown in Table 2.

Table 2 Data Logger Settings

Item	Setting	Comments
Scan Rate:	06:00:00	6 hours
Collect Rate:	06:00:00	6 hours
Duration:	99:99:99	Continuous
Start Time:	March 7, 2008 / 0600 Hrs	Logger Time
Power Save	Yes	Long Term Monitoring
Beeper	Yes	Gated / Secured Site, Beeper Ok
External Power	12 V	100 Amp Hrs

APPENDIX

APPENDIX: MOSDAX String: DGR-02

Schlumberger
WATER SERVICES

1/2

Westbay Piezometric Pressures/Levels

Field Data and Calculation Sheet

Well No.: DH02
Datum: _____
Elev. G.S.: _____
Height of Westbay above G.S.: _____
Elev. top of Westbay Casing: _____
Reference Elevation: _____
Borehole angle: _____

Probe Type: EM
Serial No.: 3899
Probe Range: 2000
Westbay Casing Type: MP55

Date: March 03/2008
Client: OPG
Job No.: WB860
Location: Bruce
Weather: Rain
Operator: AB/ML/DR

Note: "Port position" in angled boreholes refer to position along drillhole. True depth (Dp) needs to be calculated using borehole angle and deviation data to calculate zone piezometric level (Dz).

Ambient Reading (P_{atm}) (pressure, temperature, time)
Start: 10:15 am Finish: _____
14.04 P_{atm} _____ **psi**

Port No.	Port Position From Log ( )	Port Position From Cable ( )	True Port Depth "Dp" ( )	Fluid Pressure Readings: Inside Casing (P1)	Fluid Pressure Readings: Outside Casing (P2)	Fluid Pressure Readings: Inside Casing (P1)	Probe Temp. (°C)	Time H:M:S	Pressure Head Outside Port ( ) H = (P2-Patm)/w	Piez. Level Outside Port ( ) Dz = Dp - H	Comments
1	841.3	839	—	1209.07	1579.14	1209.30	22.81	10:42	1100.7	-259.4	ROT 14
2	836.8	835	—	1202.65	1489.89	1202.58		11:31	1037.9	-201.1	14
3	823.4	821	—	1183.6	1481.4	1183.6		11:56	1032.0	-208.6	14
4	811.5		—	1166.2	1460.6	1166.1			1017.3	-205.8	14
5	794.9			1142.1	1322.3	1142.1			920.1	-125.2	15
6	775.4			1113.6	1289.1	1113.6			896.7	-121.3	16
7	764.6			1097.8	1097.9	1097.8			782.3	2.3	17
8	749.0			1076.7	1058.3	1073.7			734.4	13.6	17
9	734.5			1054.1	1023.3	1054.1			709.8	24.7	15
10	716.4			1027.9	924.6	1028.0			640.4	76.0	15
11	693.8			995.3	891.14	995.3		1:01	616.9	76.9	15
12	680.3			975.6	941.0	975.6			651.9	28.4	15
13	663.3			951.6	949.8	951.6			658.1	5.6	17
14	650.2			932.00	904.5	932.0			626.2	24.0	17
15	630.6			903.5	788.7	903.5			544.8	85.8	16

Notes: w = 0.433 psi/ ft (1.422psi/m) of H_2O Dz = piezometric level in zone Patm = atmospheric pressure
H = pressure head of water in zone Dp = true depth of measurement port

2/2

Schlumberger
WATER SERVICES

Westbay Piezometric Pressures/Levels

Field Data and Calculation Sheet

Well No.: _____
Datum: _____
Elev. G.S.: _____
Height of Westbay above G.S.: _____
Elev. top of Westbay Casing: _____
Reference Elevation: _____
Borehole angle: _____

Probe Type: _____
Serial No.: _____
Probe Range: _____
Westbay Casing Type: _____

Date: _____
Client: _____
Job No.: _____
Location: _____
Weather: _____
Operator: _____

Note: "Port position" in angled boreholes refer to position along drillhole. True depth (Dp) needs to be calculated using borehole angle and deviation data to calculate zone piezometric level (Dz).

Ambient Reading (P_{atm}) (pressure, temperature, time)
Start: _____ Finish: _____
P_{atm} _____ **psi**

Port No.	Port Position From Log ( )	Port Position From Cable ( )	True Port Depth "Dp" ( )	Fluid Pressure Readings			Probe Temp. (°C)	Time H:M:S	Pressure Head Outside Port ( ) H = (P2-Patm)/w	Piez. Level Outside Port ( ) Dz = Dp - H	Comments
				Inside Casing (P1)	Outside Casing (P2)	Inside Casing (P1)					
16	614.0			879.43	658.82	879.45	19.87	1:16	453.5	160.5	16
17	591.5	591		846.56	690.54	846.56	19.29	1:19	468.7	122.8	PR - 690.54 16
18	583.9			835.54	966.65	835.58	18.88	1:21	670.0	-86.1	16
19	559.9			801.18	590.20	801,36	17.97	1:27	405.2	154.7	16
20	540.3			772.63	572.01	772,17	17.41	1:31	392.4	147.9	15
21	520.7			743.6	602.7	743.6		1:38	614.0	106.7	15
22	499.7			712.97	602.31	712.99	16.31	1:43	413.7	86.0	15
23	487.6			695.16	677.70	695.51	15.91	1:46	466.7	20.9	15
24	480.1			684.44	693.14	684.41	15.62	1:48	477.6	2.5	15
25	463.5		660.	660.47	661.59	660.47	15.21	1:51	455.4	8.1	15
26	335.8			476.36	553.79	476.32	13.35	1:58	379.6	-43.8	15
27	222.6			314.29	394,21	314.34	11.44	2:03	267.4	-44.8	
28	106.5			148.25	223.32	148.21	9.70	2:10	146.5	-40.0	

Notes: w = 0.433 psi/ ft (1.422psi/m) of H_2O Dz = piezometric level in zone Patm = atmospheric pressure
H = pressure head of water in zone Dp = true depth of measurement port

Westbay Instruments Inc.
A Schlumberger Company

MOSDAX Probe String Installation Field Record

Project: WB860 Well No.: DGR-02 By: AB/ML
Client: Inter4/OPG Location: Bruce Date: March 04/08

Installation Data

Port No.	Zone No.	Nom. Depth (m)	Collar Depth (m)	Cable No.	Cable Length (m)	Probe No.	Probe S/N	Prev. Press. Data (Po, psia)	Pi Inside MP (psia)	Po Outside MP (psia)
1		844.3				1	3904	1579.14	1209.62	1579.45
				1-4	29.8	X		~~1579.14~~		
4		811.50				2	3903	1460.6	1167.10	1463.08
				4-6	36.1					
6		775.4				3	3899	1289.1	1115.18	1289.21
				6-7	10.8					
7		764.6				4	3897	1097.9	1100.09	1102.56
				7-9	30.1					
9		734.5				5	3896	1023.3	1058.14	1038.62
				9-12	54.2					
12		680.3				6	3895	941.0	980.52	965.45
				12-15	49.70					
15		630.6				7	3894	788.7	908.05	808.28
				15-18	46.7					
18		583.9				8	3891	966.65	840.45	966.56
				18-20	43.6					
20		540.3				9	3890	572.01	777.13	585.40
				20-24	60.2					
24		480.1				10	3889	693.14	689.18	690.74
Ø		Ø		—	—	Ø	3875	—		
				24-0	500					

Datalogging Settings OPERATIONS CHECK

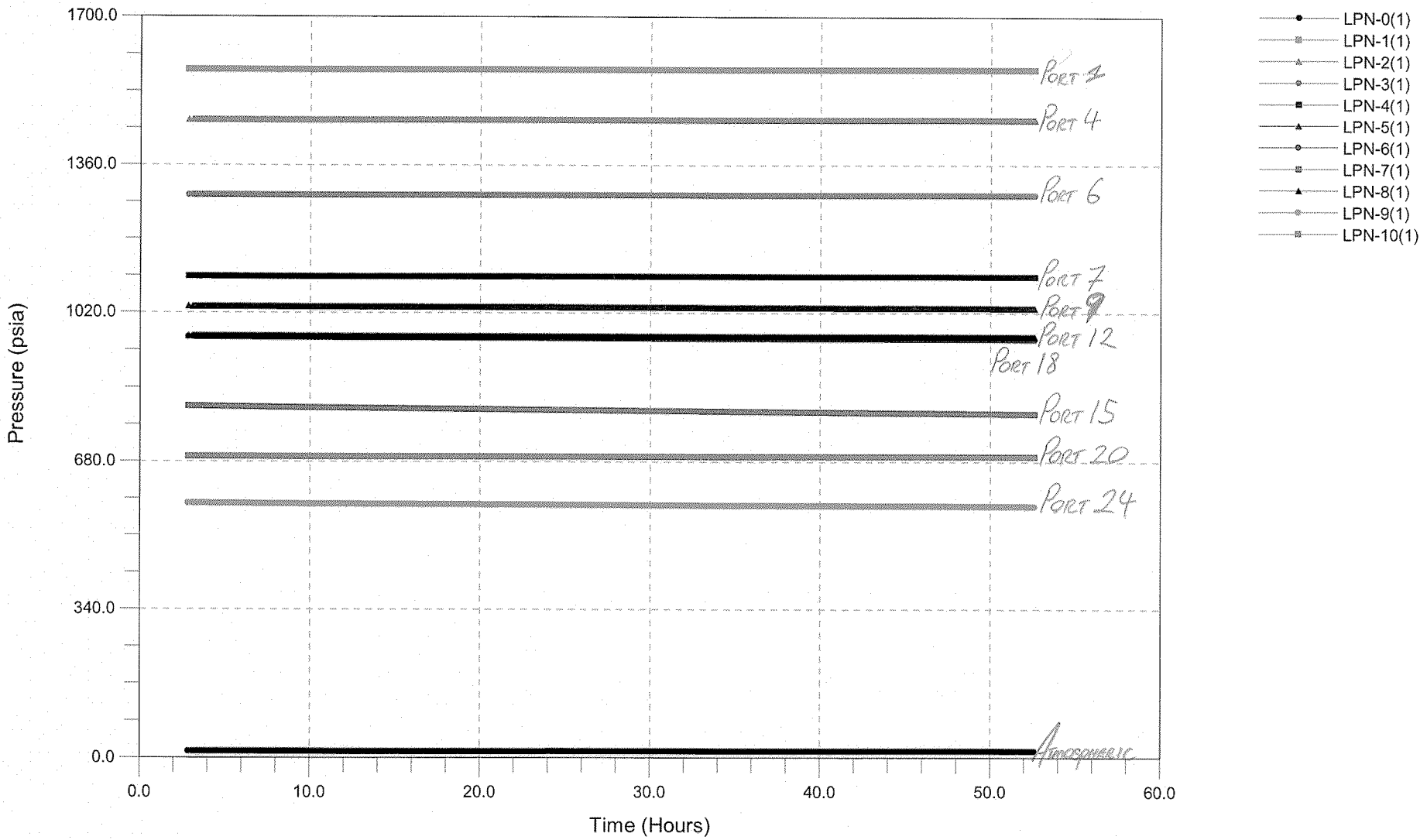
Schedule		MDL Settings	
Scan Rate:	~~15 min~~ 5 min	Power Save	ON
Collect Rate:	~~15 min~~ 5 min	Beeper	ON
Start time:		External Power?	BATTERY

Flash Rate - 12-hrs.

Project: Bruce Power
Description: MP55 Plastic-Stainless

March 4-6 2008 System Operations Check

Company: Intera
Site: Bruce, Ontario



TZero: Tue Mar 04 17:00:00 2008

Report Date: Tue Mar 25 09:27:11 2008

WDF 2008-03-06 13-40.wgt

→ TOP CABLE - MAY ADJUST LENGTH TO SUIT WELLHEAD / BULKHEAD DETAILS. DL Feb 3/08

Fabrication of MOSDAX 2518 Probe Cables
Assembly Record and Acceptance Tests

Client: OPG Borehole No.: DGR-02 No. of Probes: 10 Depth: 844 Project No.: WB860

Port No.	Nom. Port Depth (m)	Cable ID No.	Nominal Length (m)	Cable Type	Top Assembly			Bottom Assembly			Continuity Tests			Final Length (m)	Final Accept
					# Strands	Adhesive	Connector	# Strands	Adhesive	Connector	A = Center	B = Armor	A to B		
		0-24	500.10	✓	12/17	Epoxy	✓	All	Epoxy	✓	38.8	0.4	>20MΩ	500.10	TK
24	480.1														
		24-20	✓ - 60.20 ✓		12/17	"	✓	"	"	✓	4.8	0.3	>20MΩ	60.21	TK
20	540.3														
		20-18	✓ - 43.60 ✓		"	"	✓	"	"	✓	3.5	0.3	>20MΩ	43.63	TK
18	583.9														
		18-15	✓ - 46.70 ✓		"	"	✓	"	"	✓	3.8	0.2	>20MΩ	46.75	TK
15	630.6														
		15-12	✓ - 49.70 ✓		"	"	✓	"	"	✓	4.0	0.4	>20MΩ	49.71	TK
12	680.3														
		12-9	✓ - 54.20 ✓		"	"	✓	"	"	✓	4.4	0.4	>20MΩ	54.22	TK
9	734.50														
		9-7	✓ 30.10 ✓		"	"	✓	"	"	✓	2.5	0.3	>20MΩ	30.12	TK
7	764.60														
		7-6	✓ 10.80 ✓		"	"	✓	"	"	✓	1.0	0.3	>20MΩ	10.81	TK
6	775.40														
		6-4	36.10 ✓	Kevlar	—	"	✓	—	"	✓	3.1	1.7	720MΩ	36.26	TK
4	811.50														
		4-1	29.80 ✓	Kevlar	—	"	✓	—	"	✓	2.6	1.5	>20MΩ	29.74	TK
1	841.30														

Lengths OK (see note)
Dave L.
Feb 3, 2008.

795.4 m. - 9201 Cable (2608 ft)
65.9 m. Kevlar Cable (216 ft.)

Signed: _____ Date: Feb 25/08

APPENDIX E

Summary of Monitoring Intervals in DGR-1 and DGR-2

Table E.1 Summary of Westbay MP55 Monitoring Intervals in DGR-1

Port No.	Measurement Port Elevation (mASL)	Measurement Port Elevation (mBGS)	Top of Zone (mASL)	Bottom of Zone (mASL)	Top of Zone (mBGS)	Bottom of Zone (mBGS)	Zone Length (m)	Bedrock Formation (length of interval)
1	-270.09	455.80	-268.54	-277.16	454.25	462.87	8.63	Queenston (8.63 m)
2	-265.49	451.20	-263.94	-267.49	449.65	453.20	3.55	Queenston (3.55 m)
3	-250.29	436.00	-248.74	-262.89	434.45	448.60	14.15	Cabot Head (0.35 m) + Manitoulin (12.85 m) + Queenston (0.95 m)
4	-238.19	423.90	-235.14	-247.69	420.85	433.40	12.55	Cabot Head (12.55 m)
5	-227.69	413.40	-224.64	-234.09	410.35	419.80	9.45	Fossill Hill (0.65 m) + Cabot Head (8.80 m)
6	-217.19	402.90	-214.14	-223.59	399.85	409.30	9.45	Gasport (4.40 m) + Lions Head (4.45 m) + Fossil Hill (0.60 m)
7	-199.09	384.80	-196.04	-213.09	381.75	398.80	17.05	Goat Island (15.65 m) + Gasport (1.40 m)
8	-188.39	374.10	-185.34	-194.99	371.05	380.70	9.65	Salina A0 Unit (3.45 m) + Guelph (4.10 m) + Goat Island (2.10 m)
9	-182.29	368.00	-179.24	-184.29	364.95	370.00	5.05	Salina A1 Carbonate (2.05 m) + Salina A1 Evaporite (3.00 m)
10	-168.69	354.40	-165.74	-178.19	351.45	363.90	12.45	Salina A1 Carbonate (12.45 m)
11	-158.29	344.00	-155.24	-164.69	340.95	350.40	9.45	Salina A1 Carbonate (9.45 m)
12	-147.69	333.40	-144.64	-154.19	330.35	339.90	9.55	Salina A1 Carbonate (9.55 m)
13	-133.89	319.60	-130.84	-143.59	316.55	329.30	12.75	Salina A2 Carbonate (3.15 m) + Salina A2 Evaporite (5.80 m) + Salina A1 Carbonate (3.80 m)
14	-119.39	305.10	-116.34	-129.79	302.05	315.50	13.45	Salina A2 Carbonate (13.45 m)
15	-103.39	289.10	-100.34	-115.29	286.05	301.00	14.95	Salina B Unit (7.05 m) + Salina A2 Carbonate (7.90 m)
16	-78.29	264.00	-75.24	-99.29	260.95	285.00	24.05	Salina B Unit (24.05 m)
17	-58.79	244.50	-55.74	-74.19	241.45	259.90	18.45	Salina E Unit (1.55 m) + Salina D Unit (1.60 m) + Salina C Unit (15.30 m)
18	-48.29	234.00	-45.24	-54.69	230.95	240.40	9.45	Salina E Unit (9.45 m)
19	-36.69	222.40	-33.64	-44.19	219.35	229.90	10.55	Salina F Unit (3.65 m) + Salina E Unit (6.90 m)
20	-26.19	211.90	-23.14	-32.59	208.85	218.30	9.45	Salina F Unit (9.45 m)
21	-12.59	198.30	-9.54	-22.09	195.25	207.80	12.55	Salina F Unit (12.55 m)
22	-6.59	192.30	-5.04	-8.48	190.75	194.20	3.45	Salina F Unit (3.45 m)
23**	84.91	100.80	86.87	-3.98	98.84	189.70	90.86	steel casing (83.46 m) + Salina F Unit (7.40 m)

Notes:

** = in steel casing

Total depth drilled in DGR-1 = 462.87 mBGS

DGR-1 ground surface elevation = 185.71 mASL

Steel casing set to approximately 182.3 mBGS

Table E.2 Summary of Westbay MP55 Monitoring Intervals in DGR-2

Port No.	Measurement Port Elevation (mASL)	Measurement Port Elevation (mBGS)	Top of Zone (mASL)	Bottom of Zone (mASL)	Top of Zone (mBGS)	Bottom of Zone (mBGS)	Zone Length (m)	Bedrock Formation (length of interval)
1*	-655.46	841.30	-654.60	-662.22	840.44	848.06	7.62	Shadow Lake (3.36 m) + Cambrian Sandstone (4.26 m)
2	-650.96	836.80	-650.20	-653.55	836.04	839.39	3.35	Gull River (2.56 m) + Shadow Lake (0.79 m)
3	-637.56	823.40	-636.80	-649.15	822.64	834.99	12.35	Gull River (12.35 m)
4	-625.66	811.50	-622.61	-635.75	808.45	821.59	13.15	Gull River (13.15 m)
5	-609.06	794.90	-606.01	-621.56	791.85	807.40	15.55	Gull River (15.55 m)
6	-589.56	775.40	-586.51	-604.96	772.35	790.80	18.45	Coboconk (12.65 m) + Gull River (5.80 m)
7	-578.76	764.60	-575.71	-585.46	761.55	771.30	9.75	Kirkfield (0.45 m) + Coboconk (9.30 m)
8	-562.16	748.00	-559.11	-574.66	744.95	760.50	15.55	Kirkfield (15.55 m)
9	-548.66	734.50	-545.61	-558.06	731.45	743.90	12.45	Kirkfield (12.45 m)
10	-530.56	716.40	-527.51	-544.56	713.35	730.40	17.05	Sherman Fall (2.75 m) + Kirkfield (14.30 m)
11	-507.96	693.80	-504.91	-526.46	690.75	712.30	21.55	Sherman Fall (21.55 m)
12	-494.46	680.30	-491.41	-503.86	677.25	689.70	12.45	Cobourg (10.85 m) + Sherman Fall (1.60 m)
13	-477.86	663.70	-474.81	-490.36	660.65	676.20	15.55	Cobourg (15.55 m)
14	-464.36	650.20	-461.31	-473.76	647.15	659.60	12.45	Blue Mountain (4.45 m) + Cobourg - Collingwood Member (7.90 m) + Cobourg (0.10 m)
15	-444.76	630.60	-441.71	-460.26	627.55	646.10	18.55	Blue Mountain (18.55 m)
16	-428.16	614.00	-425.11	-440.66	610.95	626.50	15.55	Blue Mountain (15.55 m)
17	-405.66	591.50	-402.61	-424.06	588.45	609.90	21.45	Georgian Bay (20.45 m) + Blue Mountain (1.00 m)
18	-398.06	583.90	-395.01	-401.56	580.85	587.40	6.55	Georgian Bay (6.55 m)
19	-374.06	559.90	-370.91	-393.96	556.75	579.80	23.05	Georgian Bay (23.05 m)
20	-354.46	540.30	-351.41	-369.86	537.25	555.70	18.45	Georgian Bay (18.45 m)
21	-334.86	520.70	-331.81	-350.36	517.65	536.20	18.55	Queenston (0.35 m) + Georgian Bay (18.20 m)
22	-313.86	499.70	-310.71	-330.76	496.55	516.60	20.05	Queenston (20.05 m)
23	-301.76	487.60	-298.71	-309.66	484.55	495.50	10.95	Queenston (10.95 m)
24	-294.26	480.10	-291.21	-297.66	477.05	483.50	6.45	Queenston (6.45 m)
25	-277.66	463.50	-274.61	-290.16	460.45	476.00	15.55	Queenston (15.55 m)
26**	-149.96	335.80	-146.40	-273.56	332.24	459.40	127.16	steel casing (118.46 m) + Queenston (8.70 m)
27**	-36.76	222.60	-33.30	-145.35	219.14	331.19	112.05	steel casing (112.05 m)
28**	79.34	106.50	82.80	-32.25	103.04	218.09	115.05	steel casing (115.05 m)

Notes:

* Production Injection Packer installed in bottom of borehole (top of element is at 848.06 mBGS)

** = in steel casing

Total depth drilled in DGR-2 = 862.12 mBGS

DGR-2 ground surface elevation = 185.84 mASL

Steel casing set to approximately 450.7 mBGS