500 Consumers Road
North York, Ontario
M2J 1P8
PO Box 650
Scarborough ON M1K 5E3

Edith Chin
Senior Manager,
Upstream Regulatory Strategy and Major Projects
Telephone: (416) 753-7872
Fax: (416) 495-6072
Email: edith.chin@enbridge.com

December 17, 2014

BY COURIER

Kirsten Walli
Board Secretary
2300 Yonge Street
27th Floor, Box 2329
Toronto, ON
M4P 1E4

Dear Ms. Walli:

Re: Application to Drill Wells in a Designated Storage Area

On December 17, 2014, Enbridge Gas Distribution Inc. ("Enbridge") applied to the Ministry of Natural Resources and Forestry ("MNRF") for permission to drill two wells within the Wilkesport designated storage area. Pursuant to section 40 of the *Ontario Energy Board Act, 1998, S.O.* 1998 *c.15,* Schedule B, the Minister of Natural Resources is obligated to refer the application for the granting of a licence related to a well in a designated storage area to the Ontario Energy Board for a report.

The two proposed horizontal injection/withdrawal wells are being drilled to replace deliverability lost due to the abandonment of two wells in 2014 and the planned abandonment of three more wells in 2015. Details can be found in Enbridge's letter to the MNRF.

Enclosed please find the drilling applications filed by Enbridge with the MNRF.

If you require further information regarding this matter please contact the undersigned.

Sincerely,

[original signed]
Edith Chin
Senior Manager, Upstream Regulatory Strategy
and Major Projects

Enclosure

Gas Storage Operations
3595 Tecumseh Road
Mooretown, ON N0N 1M0
(519) 862-1473
(519) 862-1168 Fax

ENBRIDGE

December 17, 2014

Ministry of Natural Resources and Forestry
Petroleum Operations Section
659 Exeter Road
London, Ontario
N6E 1L3

Attention: Joe Van Overberghe, Manager

Subject: **Submittal of Drilling Applications for:**
T.W.#15 (Horiz.#1) Sombra 3-15-XIII
T.W.#16 (Horiz.#1) Sombra 3-15-XIII

Enclosed, please find the drilling applications for 2 proposed wells to be located on property owned by Enbridge Gas Distribution Inc. in the Wilkesport Designated Storage Area. For each well application you will find 2 copies of the Form 1, 2 copies of the Wellsite Survey, 2 copies of the Drilling Program and 2 cheques for the well application fee for each well. It is our hope to start the drilling of the wells by March 1st, 2015. We would be pleased to meet with you to review or clarify any portion of the applications.

The proposed wells are being drilled to replace deliverability lost due to the abandonment of 2 wells in 2014 and the planned abandonment of 3 more wells in 2015. Please see the table below which outlines the wells to be abandoned, the Well Licence Number, well locations and status of the well:

Licence Number	Well Name	Location	Status
4743	Tec W'port 2	Sombra 14-XIII	To be Abandoned - 2015
6179	Tec WPort #4	Sombra 14-XIII	To be Abandoned - 2015
4745	Tec W'port #5	Sombra 14-XII	Abandoned - 2014
4825	Tec W'port 9A	Sombra 14-XIII	Abandoned - 2014
4923	Tec W'port 11	Sombra 1-14-XIII	To be Abandoned - 2015

These 5 wells are being abandoned as they are located on a floodplain and artificially constructed hills which impede access to these wells. The wells are being replaced with

horizontal wells, since this technology allows the drilling of the reef, while maintaining the surface location outside of the floodplain.

It is our understanding that the drilling applications will be forwarded to the Ontario Energy Board (OEB) by your office and we are requesting your earliest attention to these applications. For your information, Enbridge has also submitted a package containing the drilling applications to the OEB.

If any further information is required please contact the undersigned at 519-862-6032.

Yours truly,

[original signed]

Kathy McConnell, P.Geo
Senior Project Geologist
3595 Tecumseh Road
Mooretown, Ontario
N0N 1M0

Enclosures

Oil, Gas and Salt Resources Act

Application for a Well Licence

Ontario

Form 1 — To the Minister of Natural Resources — v.2013-10-04

The undersigned operator applies for a well licence under the Oil, Gas and Salt Resources Act and the Regulations thereunder and submits the following information, together with the application fee of $100 + 13% HST. Make cheques payable to "Minister of Finance".

1. WELL NAME T.W.#15 (HORIZ # 1) - SOMBRA 3-15-XIII — Target Formation: Guelph

Purpose of Proposed Well (Well Type): Gas Storage

2. OPERATOR Enbridge Gas Distribution Inc. — Tel # 519-862-1473 — Fax # 519-862-1178

Street Address: 3595 Tecumseh Road — City: Mooretown — Prov.: ON — Postal Code: N0N 1M0

Mailing Address: 3595 Tecumseh Road — City: Mooretown — Prov.: ON — Postal Code: N0N 1M0

Contact Name: Kathy McConnell — Contact Tel #: 519-862-6032

Email: kathy.mcconnell@enbridge.com

3. LOCATION County: Lambton — Township: Sombra

Tract: 3 — Lot: 15 — Concession: 13 — Lake Erie: Block / Tract / Licence/Lease No.

Surface location, metres from Lot Boundaries: 490.20 m North [ ] South [X] — 218.30 m East [X] West [ ]

Latitude: 42° 44' 08.035" — Longitude: 82° 21' 28.190"

Bottom-hole Lat.: 42° 44' 21.458" — Bottom-hole Long.: 82° 21' 48.816"

Within 1.6 km of Designated Storage Area? Yes [X] No [ ] — Off-target? Yes [ ] No [X]

4. WELL PARTICULARS Vertical [ ] Horizontal [X] Directional [ ] Deepening [ ] Re-entry [ ] Lateral [ ]

Rig Type: Rotary [X] Cable [X] — Well to be cored? Yes [ ] No [X] — Formation at TD: Guelph

Ground Elevation: 184.20 — Proposed Depth: 1170.0 — Proposed Depth TVD: 618.00 — Proposed Start Date: 1-Mar-15

5. LANDOWNER 912176 Ontario Ltd., a wholly owned subsidiary of Enbridge Gas Distribution Inc. — Tel #: 519-862-6008

Street Address: 3595 Tecumseh Road — City: Mooretown — Prov.: ON — Postal Code: N0N 1M0

The landowner herby provides consent for the collection of their personal information, via the operator, as per Section 12 of this form. Landowner Signature:

Pooling of the Spacing Unit or unitization of the Unit Area shown on the attached well location plan has been completed (see Ont. Reg. 245/97 definitions for "pooled spacing unit" and "unitize") Yes [X] No [ ]

6. DRILLING CONTRACTOR TW Marsh Well Drilling & Servicing / Rotary Contractor - Unknown — Tel #: 519-695-6060 / Unknown

Address: Box 53 / Unknown — City: Bothwell / Unknown — Prov.: ON — Postal Code: N0P 2C0

7. PROPOSED CASING AND CEMENTING PROGRAM

Hole Size (mm)	Casing O.D. (mm)	Weight (kg/m)	Grade	New Used or in-hole	Setting Depth TVD	Setting Depth Meas.	Setting Formation	CASING SETTING INFORMATION How Set	Cement Type	Cement Top KB / RF
508	508	158.47	LS	New	43	43	Kettle Point	Driven	nil	nil
508	406	96.42	LS	New	58	58	Kettle Point	Cement	Class 'G'	surface
375	298	69.94	J55	New	389	389	F Unit	Cement	Class 'G'	surface
270	219	47.62	J55	New	551	559.49	A-2 Anhydrite	Cement	Class 'G'	surface

8. BLOW-OUT PREVENTION EQUIPMENT 16" 2M MSP Hydrill
11" 3M Annular Preventor and Double Gate (pipe and blind)

9. WELL SECURITY Name of Trustee: Harrison Pensa LLP — Total # Unplugged Wells: 154 — Current Balance: $70K

10. REMARKS Model 7000 Dual Element Passive Rotating Control Device 11" x 2M

11. ENCLOSURES Fee [X] — Location Plan [X] (Land wells only) — Drilling Program [X]

12. NOTICE OF COLLECTION

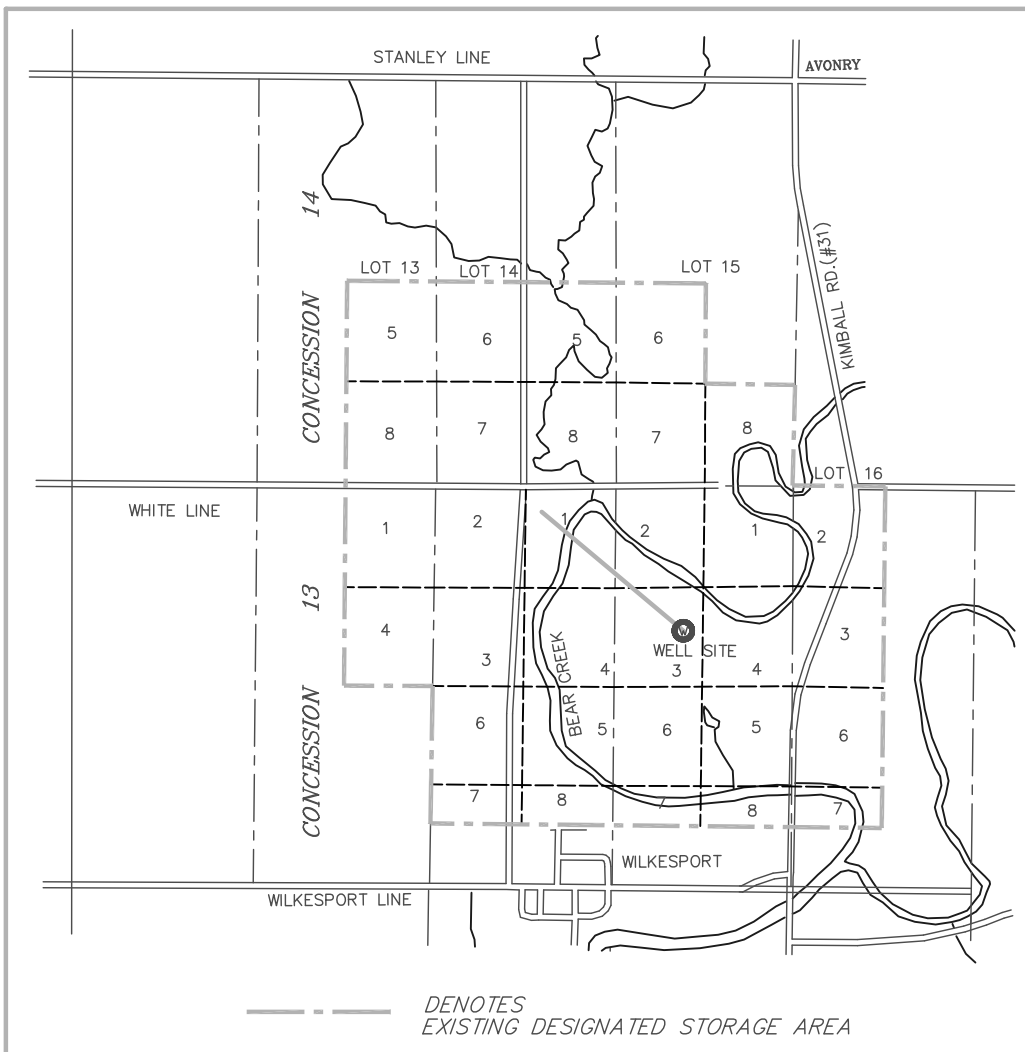
The Ministry of Natural Resources is collecting your personal information under the authority of the *Oil, Gas and Salt Resources Act*. Any personal information provided on this application will be used for licensing and law enforcement purposes only and will be protected in accordance with the Freedom of Information and Protection of Privacy Act.

If you have questions about use of your personal information, please contact the Policy and Program Officer, Petroleum Operations Section, Ministry of Natural Resources, 659 Exeter Road, London N6E1L3, 519-873-4638.

13. AUTHORITY

The undersigned certifies that the information provided herein is complete and accurate, the operator has the right to drill or operate a well in the above location, and he/she has authority to bind the operator.

Date (d/m/y)	17.Dec.14	Name	Kathy McConnell	Signature	
		Company	Enbridge Gas Distribution Inc.	Title	Snr. Project Geologist

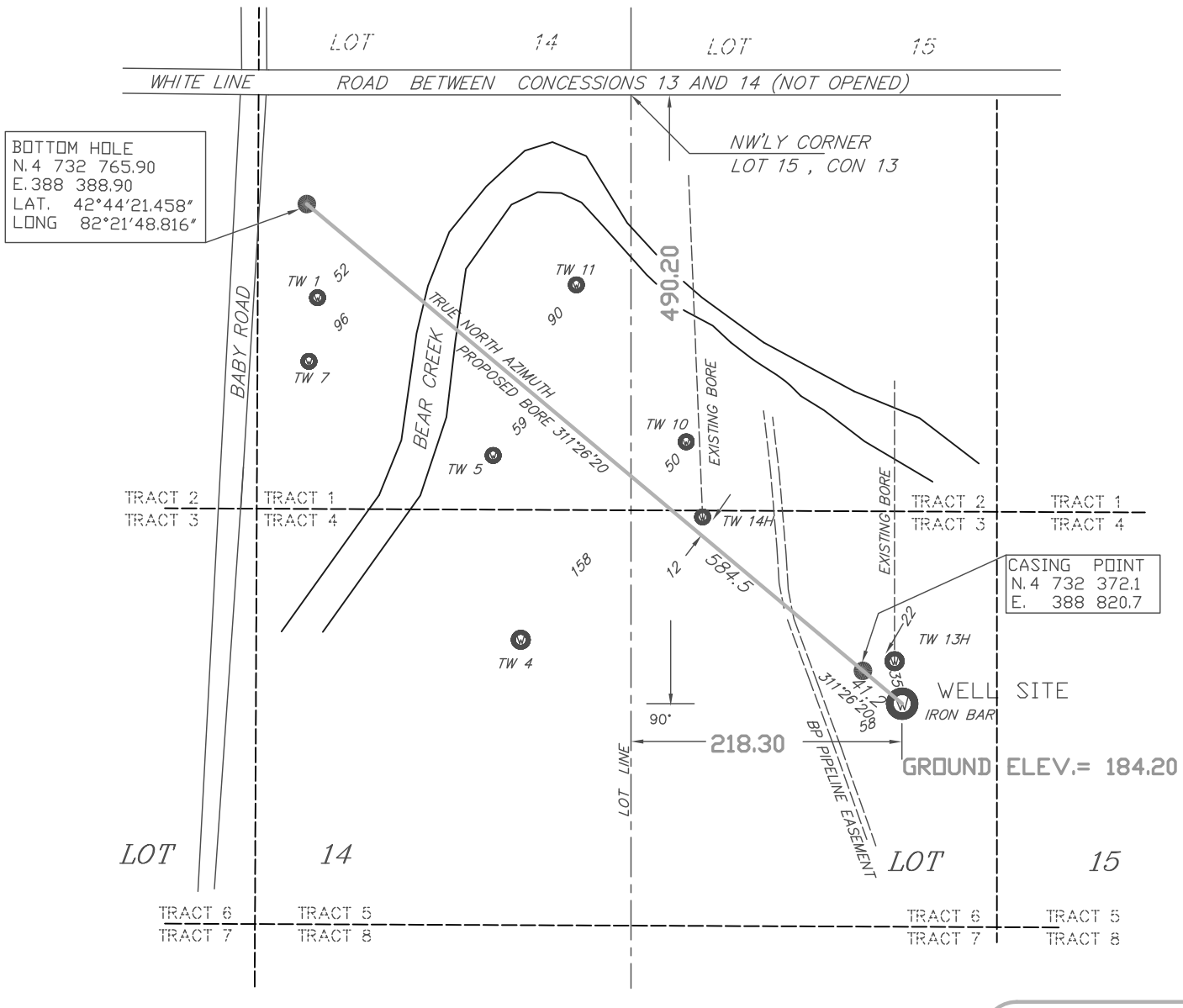


PLAN OF PROPOSED WELL
LOT 15
CONCESSION 13
GEOGRAPHIC TOWNSHIP OF SOMBRA
TOWNSHIP OF ST CLAIR
COUNTY OF LAMBTON

SCALE 1:5000

WELL NAME
T.W.#15 (HORIZ # 1) – SOMBRA – 3 – 15 – 13

NOTE (WELL SITE) CO-ORDINATES
LATITUDE N.42°44'08.035" LONGITUDE W.82°21'28.190"
U.T.M. N 4 732 344.30 E 388 851.20



NOTE METRIC
DISTANCES SHOWN ON THIS PLAN ARE IN METERS AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048

NOTE GEODETIC HORIZONTAL CONTROL
U.T.M. CO-ORDINATES ARE GEODETIC (DATUM NAD 83) AND REFERRED TO GEODETIC MONUMENTS NO. 010831080 AND 010831053

NOTE BENCH MARK
ELEVATIONS ARE REFERRED TO GEODETIC DATUM AND REFERENCE BENCH MARK BEING
010831052
ELEVATION = 180.53

PREPARED BY
BRISCO AND O'ROURKE
1425331 ONTARIO LIMITED
SERVING THE PETROLEUM INDUSTRY
THROUGHOUT ONTARIO
WELLS,CONSTRUCTION AND TECHNICAL SURVEYING
DIGITAL MAPPING
LAND AND LEASE SURVEYS
OFFICE (519) 351-5073
CELL (519) 401-5073
FAX (519) 351-3119
P.O.BOX 327 - N7M-5K4
CHATHAM , ONTARIO

PREPARED FOR
ENBRIDGE GAS DISTRIBUTION INC.

FILE NO. 14-5067	PLAN NO. ENB6802.DWG

DEC.12 , 2014

TIMOTHY J. O'ROURKE C.S.T. A.C.E.T.

AUTHORIZED BY THE MINISTER OF NATURAL RESOURCES UNDER THE PETROLEUM RESOURCES ACT OF ONTARIO

TW # 15 (HORZ. #1) SOMBRA 3-15-XIII

DRILLING PROGRAM

Drilling Program

TW#15 (Horiz #1) Sombra 3-15-XII

Enbridge Gas Distribution Inc.

TABLE OF CONTENTS

Drilling Program

TW#15 (Horiz #1) Sombra 3-15-XII

Enbridge Gas Distribution Inc.

SECTION 1.0 - GENERAL DATA

Section 1.1 - Well Summary

Well Name:	TW# 15 (Horiz. # 1) Sombra 3-15-XIII
Operator:	Enbridge Gas Distribution Inc.
Surface Hole Location:	Tract 3, Lot 15, Con. 13, Sombra Twp, Lambton County N 4 732 344.3; E 388 851.3
Surface Hole Coordinates:	490.2m South; 218.3m East
Bottom Hole Location:	Tract 1, Lot 14, Con. 13, Sombra Twp, Lambton County
Bottom Hole Coordinates:	N 4 732 765.9; E 388 388.9
Ground Elevation:	184.20m
KB Elevation:	188.20m
Total Depth:	618mTVD; 1170mMD
Target Formation:	Guelph
Logging Program:	CBL-GR – 219mm casing Vertilog – 219mm casing
Spud Date:	March 1, 2015
Duration:	30 days

Section 1.2 – Special Notes

1. Safety of personnel and environment is our primary concern. Section 6.1 of this program, outlines Enbridge's general safety requirements which obliges all personnel on the wellsite to follow the Occupational Health and Safety Act and Regulations (Ministry of Labour (MOL)) and the Oil, Gas & Salt Resources Act and Regulations (Ministry of Natural Resources and Forestry (MNRF)). Safety and/or environmental ("tailgate") meetings shall be conducted as per Section 6. Wellsite Supervisor shall conduct daily 'walk around' inspections of the equipment on site and record the results on the daily reports. Please refer to Section 5.2 for the procedure to be followed if a worker injury occurs.

2. The Wellsite Supervisor has authority over all activities conducted on the drilling location. The Wellsite Supervisor shall ensure that all applicable regulations and policies (MNRF, MOL, Ministry of the Environment and Climate Change (MOECC), and Enbridge) are followed and that all permits are kept on site and/or signed off as required.

3. All operations are to be to MNRF standards.

4. BOPs are to be installed, maintained and used as per MNRF requirements. Testing of the BOPs must be in accordance with Section 6.2 of this program.

5. Tower sheets must be completed daily and will include the information listed in Section 5.1 of this program. The Wellsite Supervisor will complete daily reports and forward the reports to Enbridge's office by 10am the following day.

6. The well will be drilled in 2 stages:

    a. A cable tool rig will drive the conductor casing and will drill the surface casing into the Kettle Point formation and cement the casing to surface. Drilling this portion of the well with a cable tool rig will ensure that the fresh water zone will be exposed to a minimal amount of drilling fluid.

    b. A rotary rig will be moved onto location and will drill to TD. The rotary will set the intermediate and production casings and will drill the open hole horizontal section in the Guelph reef.

7. During the rotary phase of the well, the well will be drilled with fresh water or formation brine, hauled to location by an approved contractor. The fresh water will be obtained from local municipal water systems, located at Brigden, Corruna and other available water systems. The brine used will be Guelph formation brine obtained from Enbridge's existing operations.

8. The production casing will be set in the A-2 Anhydrite to allow for an effective cement job and successful pressure testing, prior to penetrating the Guelph formation

9. Two 500 bbl frac tanks will be spotted on location prior to the drilling of the Detroit River formation. The tanks will be filled with fresh water / brine as reserve for the drilling of potential loss circulation zones. Potential loss circulation zones exist in the Detroit River formation (intermediate hole) and the Guelph formation (main hole).

Drilling Program

TW#15 (Horiz #1) Sombra 3-15-XII

Enbridge Gas Distribution Inc.

Section 1.3 - Contact Numbers

Emergency Numbers:

Police, Fire & Ambulance* 911

911 Address: 1697 Kimball Road, Wilkesport, Ontario

* For 911 Map and Map and Directions to Nearest Hospital see attached Map at end of Section 1.3

Enbridge Gas Distribution Inc.

Kathy McConnell	Senior Project Engineer	Office: 519-862-6032 Fax: 519-862-1168 Cell: 519-312-2168 kathy.mcconnell@enbridge.com
Rob Carlson	Reservoir Field Supervisor	Office: 519-862-6036 Fax: 519-862-1168 Cell: 519-312-4863 robert.carlson@enbridge.com
Terry Chupa	Land Administrator	Office: 519-862-6008 Fax: 519-862-1168 Cell: 519-384-0215 terry.chupa@enbridge.com
Control Room		Office: 519-862-6012

Drilling Supervisor:

Steve Thompson	Cell: 519-383-5404 omniconsulting@rogers.com
Wayne Bolton	Cell: 519-312-8437 kegconsulting@aim.com

Drilling Program

TW#15 (Horiz #1) Sombra 3-15-XII

Enbridge Gas Distribution Inc.

Geologist:		
Neil Hoey		Office: 519-472-4776 Fax: 519-472-4776 Cell: 519-649-6918 neil_hoey@hotmail.com
Cable Tool Rig:		
Terry Marsh	Terry Marsh Well Drilling & Servicing Owner / Operator	Office: 519-695-6060 Fax: 519-695-6464 Mobile: 519-359-9804 twmarshca@yahoo.com
Rotary Rig:		
Keith Davis	Ecan Energy Services Inc.	Office: 519-627-3824 Fax: 519-627-5306 Mobile: 519-437-7038 kmecanen@kent.net
Directional Drillers:		
Phoenix Technology Services LP.	Canadian Sales	Office: 403-543-4466 Fax: 403-543-4485 Toll Free: 866-607-4677
Bryce Lowes	Technical Marketing Representative	Office: 403-899-8099 brycelowes@phxtech.com
Dayana Gonzalez	CDN Well Planner	Office: 403-543-8497 dgonzalez@phxtech.com
Cementing:		
Ian Veen	Black Creek Well Service President	Office: 519-882-4732 Fax: 519-834-2466 Cell: 519-383-4645
Jay Rookes	Schlumberger Canada Engineer-in-Charge	Office: 519-652-5053 Fax: 519-652-6002 rookes1@slb.com

Drilling Program

TW#15 (Horiz #1) Sombra 3-15-XII

Enbridge Gas Distribution Inc.

Casing, Wellheads & ESDs:

Brian DeJaegher	Wellmaster Pipe &Supply Sales Representative	Office: 519-688-0500 Fax: 519-688-0563 bdejaegher@wellmaster.ca
Graham Shone	DNow Manager	Office: 519-336-9797 Fax: 519-336-9733 graham.shone@dnow.com
Karen Derrick	Stream-Flo Ltd. Technical Sales Rep.	Office: 832-647-0710 Fax: 519-688-0563 kderrick@streamflo.com
Craig Fisher	Weatherford Wellhead Sales Manager	Office: 403-693-7545 Fax: 403-693-7722 craig.fisher@ca.weatherford.com

Drill Bits:

Brad Takenaka	Varel Rock Bits Canada Sales Manager	Office: 403-968-9369 Cell: 403-303-2533 btakenaka@varelintl.com
Mike Kellar	Trendon Bit Service Ltd. Director, Sales	Office: 403-990-1299 mkellar@trendoninc.com

Wireline Services:

Gord Mackenzie	Baker Atlas Station Manager	Office: 519-332-8030 Fax: 519-332-4714 Cell: 519-339-6783 gord.mackenzie@bakerhughes.com
Dave Tipping	Weatherford Canada – Wireline & Logging Services Station Manager	Office: 519-683-2010 Fax: 519-683-2577 Cell: 519-436-3541 dave.tipping@canada.weatherford.com

Water Hauling:

Keith McKeegan	President McKeegan Trucking Limited	Office: 519-864-1037 Fax: 519-864-1036 Cell: 519-490-4042

Drilling Program

TW#15 (Horiz #1) Sombra 3-15-XII

Enbridge Gas Distribution Inc.

Denis Marcus	President Harold Marcus Limited	Office: 519-695-3735 Fax: 519-695-2249 Cell: 519-380-5238 dmarcus@haroldmarcus.com
Aaron Verstraete	President Oil Patch Services	Office: 519-676-6747 Fax: 519-676-7932 Cell: 519-380-5473 ops.aaron@bellnet.ca

Rental Equipment:

Dale Holland	Wheatley Wireline Services Ltd.	Office: 519-825-3680 Fax: 519-825-9348 Cell: 519-322-8015
Keith Davis	Ecan Energy Services Inc.	Office: 519-627-3824 Fax: 519-627-5306 Cell: 519-437-7038 kmecanen@kent.net
Brian Lackie	Weatherford Fishing Supervisor & Shop Manager	Office: 780-955-7933 Cell: 780-490-8710 brian.lackie@ca.weatherford.com
Orval Beam	Orval L. Beam Limited Operations Manager Tank Rentals	Office: 519-436-0164 Fax: 519-436-0164 Cell: 519-436-4801

Welders:

John Dawson	St. Clair Mechanical President	Office: 519-864-0927 Fax: 519-864-0801 Cell: 519-330-9672

Government & Other Agencies

MNRF	Petroleum Resources Centre	Office: 519-873-4634 Fax: 519-873-4645 ogsr.mnr.gov.on.ca

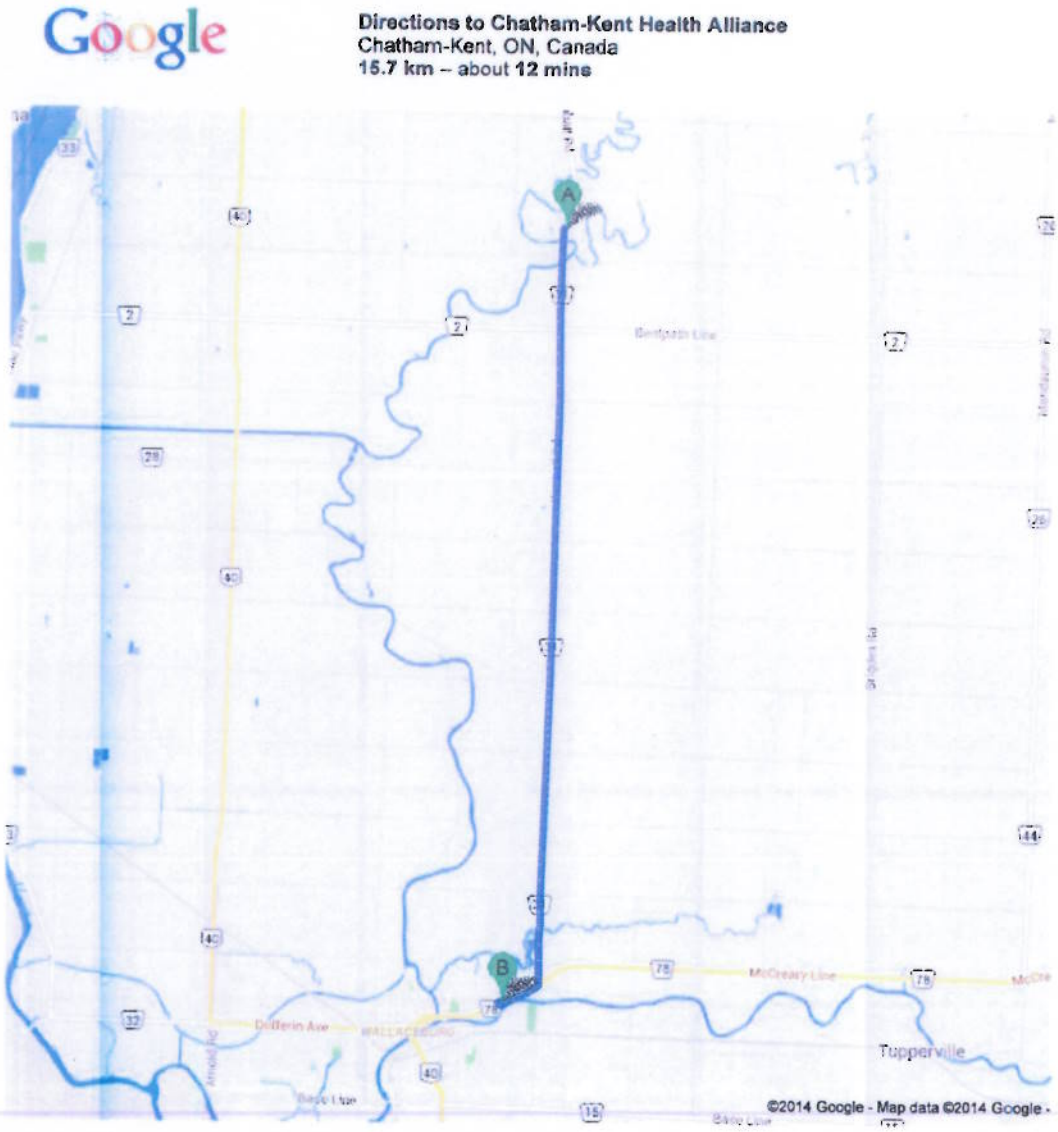
Drilling Program

TW#15 (Horiz #1) Sombra 3-15-XII

Enbridge Gas Distribution Inc.

MOECC	Spill Reporting	1-800-268-6060
MOL	Health & Safety	1-800-265-1676
Oil, Gas & Salt Resources Library		Office: 519-686-2772 Fax: 519-686-7225

911 Map & Directions to Nearest Hospital:

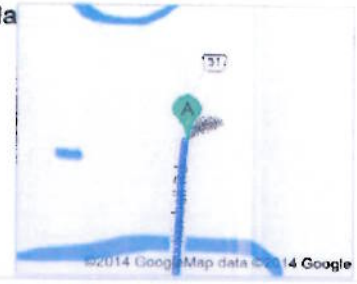


Drilling Program

TW#15 (Horiz #1) Sombra 3-15-XII

Enbridge Gas Distribution Inc.

A 1697 Kimball Rd, Wilkesport, ON N0P 2R0, Canada



1. **Head south on Kimball Rd/Lambton County Rd 31 toward Wilkesport Line**
   Continue to follow Kimball Rd
   About 10 mins

go 14.7 km
total 14.7 km

2. Turn right onto **Margaret Ave/Hwy 78/Chatham-Kent County Rd 78**
   About 56 secs

go 800 m
total 15.5 km

3. Turn right onto **Dora Dr**

go 69 m
total 15.6 km

4. Turn right
   Destination will be on the left

go 49 m
total 15.7 km

Drilling Program

TW#15 (Horiz #1) Sombra 3-15-XII

Enbridge Gas Distribution Inc.

TW 15H Sombra 3-15-XIII

Elevation: 188.2m

Formation	Top	Elevation	Thickness	Gas	Oil	Water	Pressure
K.B.	0.0	188.2	4.0				
Drift	4.0	184.2	39.0			Fresh @ 37m	
Kettle Point	43.0	145.2	63.0				
Hamilton	106.0	82.2	70.0				
Dundee	176.0	12.2	30.0			Sulphur @184m	
Lucas	206.0	-17.8	75.0				
Amherstburg	281.0	-92.8	34.0				
Bois Blanc	315.0	-126.8	24.0				
Bass Islands	339.0	-150.8	38.0				
G-Shale	377.0	-188.8	7.0				
F-Shale	384.0	-195.8	19.7				
F-Salt	missing						
E-Carbonate	403.7	-215.5	43.7				
D-Salt	missing						
C-Shale	447.4	-259.2	21.0				
B-Salt	468.4	-280.2	56.1				
A-2 Carbonate	524.5	-336.3	23.0				
A-2 Shale	547.5	-359.3	0.7				
A-2 Salt	missing						
A-2 Anhydrite	548.2	-360.0	6.6				
A-1 Carbonate	missing						
A-1 Evaporite	missing						
Guelph	554.8	-366.6	200±	XX			4200 kPa

Note: Prognosis with TVD tops.
Note: TW13H Sombra 3-15-XIII & TW 5 Sombra 14-XIII used to build prognosis

Drilling Program

TW#15 (Horiz #1) Sombra 3-15-XII

Enbridge Gas Distribution Inc.

Section 3.0 - Casing and Cementing Summary

Section 3.1 - Summary

Hole Size (mm)	Casing Size (mm)	Casing Grade	Casing Weight (kg/m)	Setting Depth (mKB)	How Set
508	508	LS	158.47	43	Driven – cement squeeze if necessary
508	406	LS	96.42	58	Cemented to surface with 100% excess Class G 0-1-0 cement + 2 – 3% $CaCl_2$
375	298	J-55	69.94	389	Cemented to surface with Class 'G' 0-1-8% plus 1 to 3% $CaCl_2$, followed by Class 'G' neat cement plus 1 to 3% $CaCl_2$. Cement volumes will be calculated with a 50% excess- gel cement and 30% excess – neat cement. Depending upon hole conditions, consideration may be given to running thixotropic cement plus additional loss circulation materials, across porous zone(s).
270	219	J-55	47.62	551m TVD 559.49 mMD	Cemented to surface with Class 'G' 0-1-0% plus 1 to 2% $CaCl_2$ plus 10% NaCl. Cement volumes will be calculated with a 50% excess on the open hole section and 30% excess on the cased hole section.

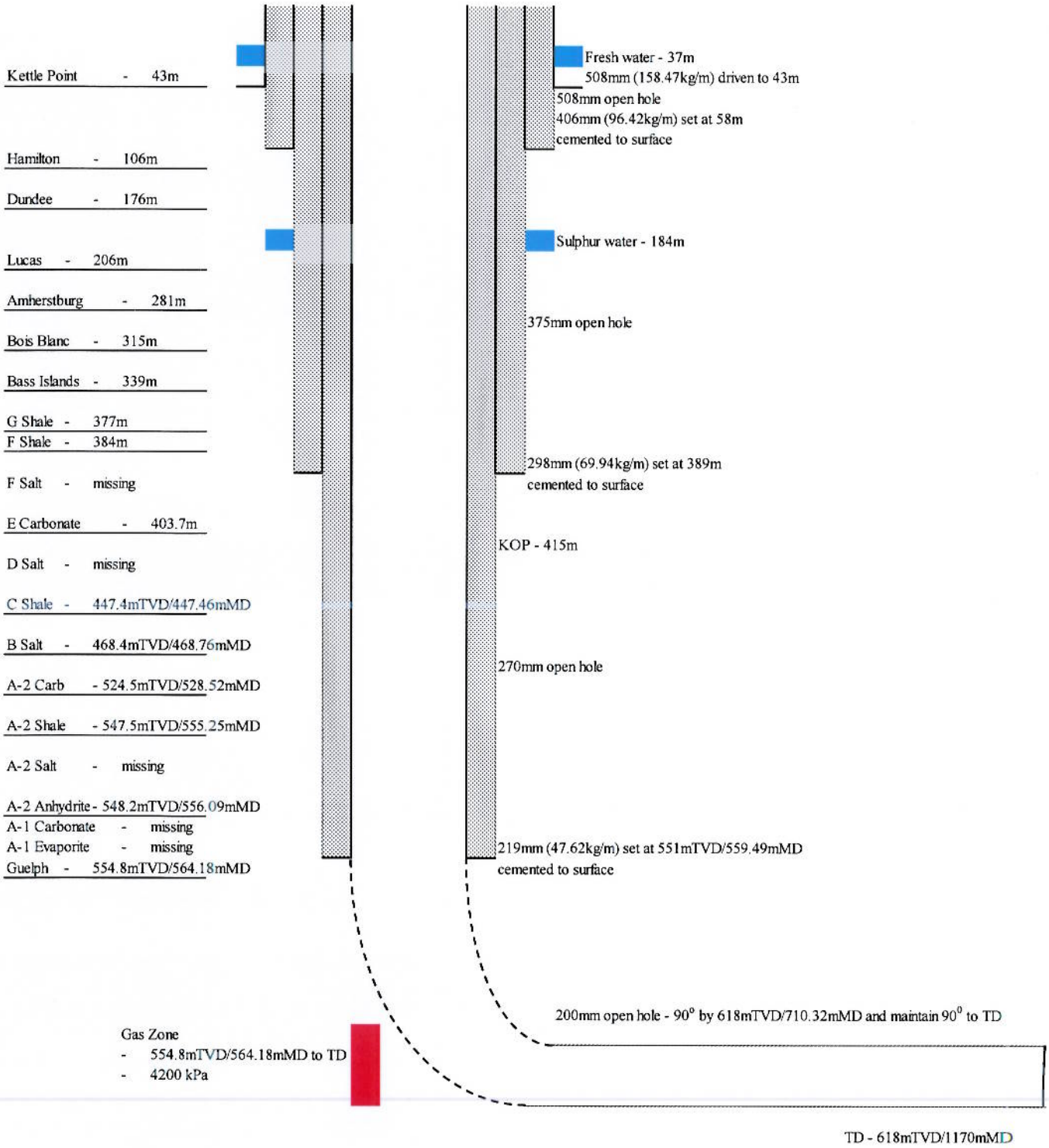
Main Hole: 200mm open hole will be drilled from 551m TVD at 35^0 and will reach 90^0 at 618mTVD (710.32mMD) and will be drilled horizontally for approximately 460m to a TD of 618mTVD (1170mMD) at 90^0.

Drilling Program

TW#15 (Horiz #1) Sombra 3-15-XII

Enbridge Gas Distribution Inc.

Section 3.2 - Wellbore Diagram



Drilling Program

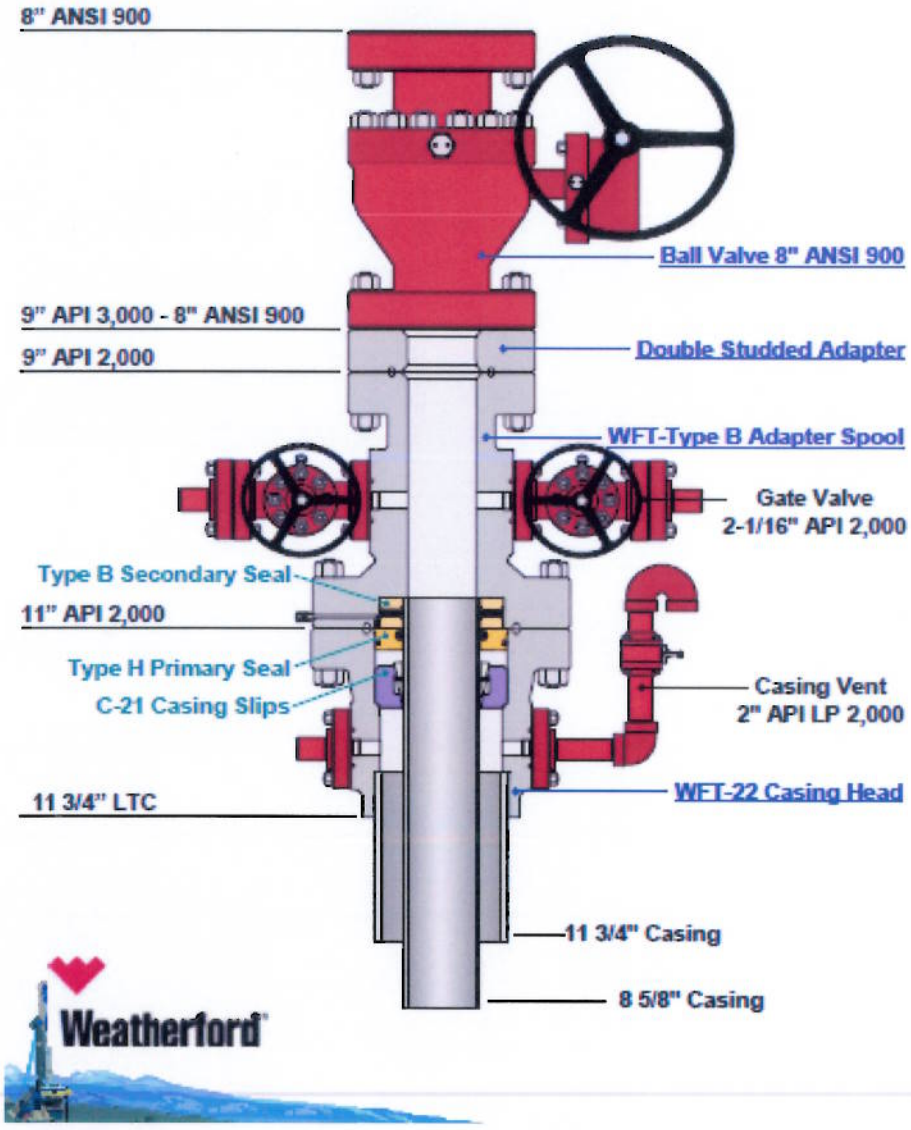
TW#15 (Horiz #1) Sombra 3-15-XII

Enbridge Gas Distribution Inc.

Section 3.3 - Wellhead Summary

Weatherford 13.8 MPa Wellhead:

406mm x 425.5mm slip on casing bowl (for BOP installation)
298mm x 340mm slip on casing bowl
340mm x 228.6mm spool c/w 2 gate valves on side outlets
203.2mm ANSI 900 Cameron Grove full port ball valve

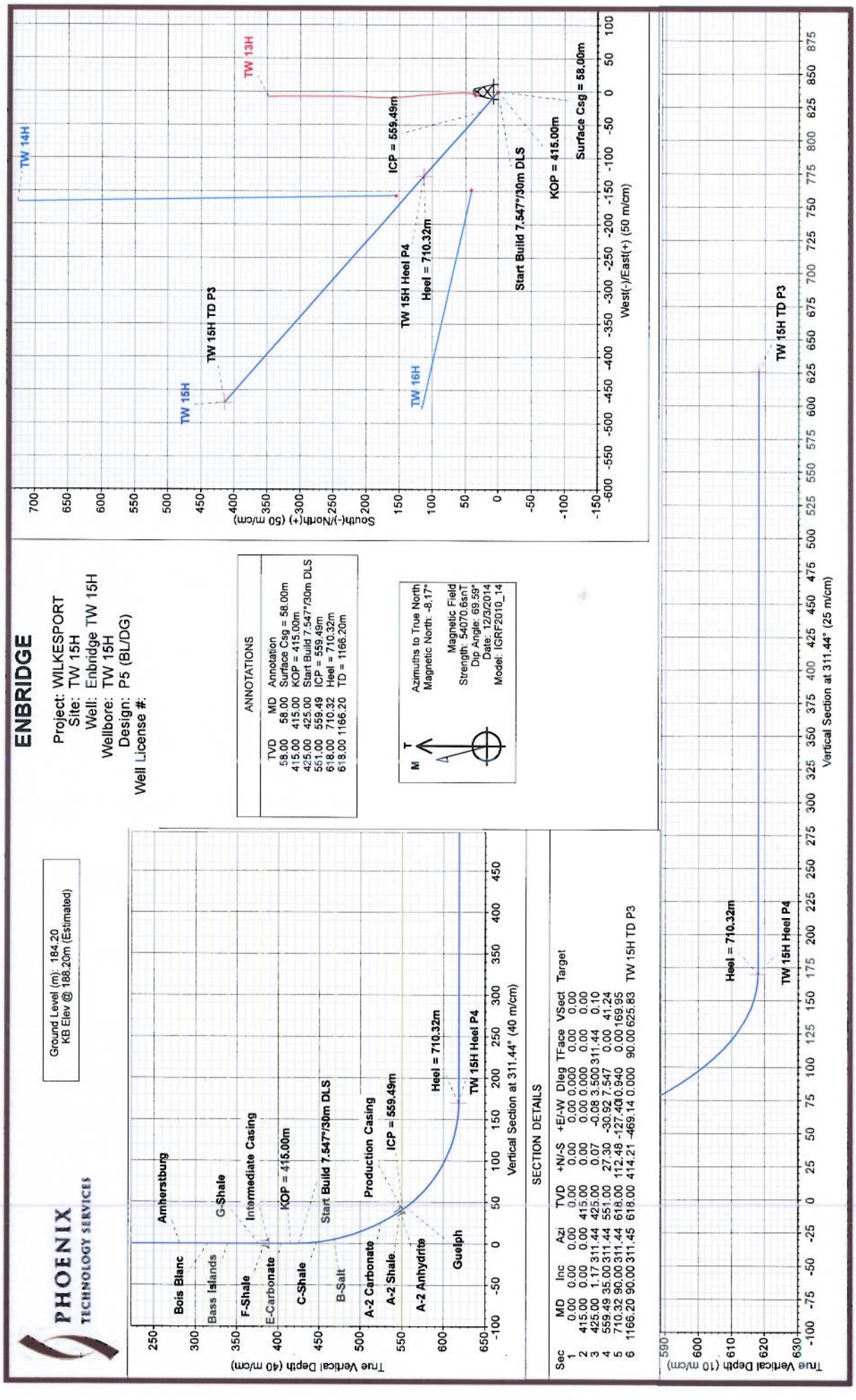


Drilling Program

TW#15 (Horiz #1) Sombra 3-15-XII

Enbridge Gas Distribution Inc.

Section 3.4 - Directional Planning Report


PHOENIX
TECHNOLOGY SERVICES
ENBRIDGE
Project: WILKESPORT
Site: TW 15H
Well: Enbridge TW 15H
Wellbore: TW 15H
Design: P5 (BL/DG)
Well License #:
Ground Level (m): 184.20
KB Elev @ 188.20m (Estimated)
ANNOTATIONS
TVD MD Annotation
58.00 58.00 Surface Csg = 58.00m
415.00 415.00 KOP = 415.00m
425.00 425.00 Start Build 7.547°/30m DLS
551.00 559.49 ICP = 559.49m
618.00 710.32 Heel = 710.32m
618.00 1166.20 TD = 1166.20m
Azimuths to True North
Magnetic North: -8.17°
Magnetic Field
Strength: 54070.6snT
Dip Angle: 69.59°
Date: 12/3/2014
Model: IGRF2010_14
SECTION DETAILS
Sec MD Inc Azi TVD +N/-S +E/-W Dleg TFace VSect Target
1 0.00 0.00 0.00 0.00 0.00 0.00 0.000 0.00 0.00
2 415.00 0.00 0.00 415.00 0.00 0.00 0.000 0.00 0.00
3 425.00 1.17 311.44 425.00 0.07 -0.08 3.500 311.44 0.10
4 559.49 35.00 311.44 551.00 27.30 -30.92 7.547 0.00 41.24
5 710.32 90.00 311.44 618.00 112.48 -127.40 10.940 0.00 169.95
6 1166.20 90.00 311.45 618.00 414.21 -469.14 0.000 90.00 625.83 TW 15H TD P3
Amherstburg
Bois Blanc
Bass Islands
G-Shale
F-Shale
Intermediate Casing
E-Carbonate
KOP = 415.00m
C-Shale
Start Build 7.547°/30m DLS
B-Salt
A-2 Carbonate
Production Casing
A-2 Shale
ICP = 559.49m
A-2 Anhydrite
Heel = 710.32m
Guelph
TW 15H Heel P4
True Vertical Depth (40 m/cm)
Vertical Section at 311.44° (40 m/cm)
TW 14H
TW 13H
TW 15H
TW 15H TD P3
TW 16H
TW 15H Heel P4
ICP = 559.49m
Heel = 710.32m
KOP = 415.00m
Start Build 7.547°/30m DLS
Surface Csg = 58.00m
South(-)/North(+) (50 m/cm)
West(-)/East(+) (50 m/cm)
True Vertical Depth (10 m/cm)
Vertical Section at 311.44° (25 m/cm)

PHOENIX TECHNOLOGY SERVICES

Phoenix Technology Services
Planning Report

Database:	Compass CAN 5000 DB	Local Co-ordinate Reference:	Well Enbridge TW 15H
Company:	ENBRIDGE	TVD Reference:	KB Elev @ 188.20m (Estimated)
Project:	WILKESPORT	MD Reference:	KB Elev @ 188.20m (Estimated)
Site:	TW 15H	North Reference:	True
Well:	Enbridge TW 15H	Survey Calculation Method:	Minimum Curvature
Wellbore:	TW 15H		
Job Number	P5 (BL/DG)		

Project WILKESPORT

Map System:	Universal Transverse Mercator	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Zone 17N (84 W to 78 W)		Using geodetic scale factor

Site TW 15H

Site Position:		Northing:	4,732,344.30 m	Latitude:	42° 44' 8.035 N
From:	Map	Easting:	388,851.20 m	Longitude:	82° 21' 28.190 W
Position Uncertainty:	0.00 m	Slot Radius:	335.28 mm	Grid Convergence:	-0.92 °

Well Enbridge TW 15H

Well Position	+N/-S	0.00 m	Northing:	4,732,344.30 m	Latitude:	42° 44' 8.035 N
	+E/-W	0.00 m	Easting:	388,851.20 m	Longitude:	82° 21' 28.190 W
Position Uncertainty		0.00 m	Wellhead Elevation:	0.00 m	Ground Level:	184.20 m

Wellbore TW 15H

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010_14	12/3/2014	-8.17	69.59	54,071

Job Number P5 (BL/DG)

Audit Notes:

Version:		Phase:	PROTOTYPE	Tie On Depth:	0.00

Vertical Section:	Depth From (TVD) (m)	+N/-S (m)	+E/-W (m)	Direction (°)
	0.00	0.00	0.00	311.44

Plan Sections

Measured Depth (m)	Inclination (°)	Azimuth (°)	Vertical Depth (m)	+N/-S (m)	+E/-W (m)	Dogleg Rate (°/30m)	Build Rate (°/30m)	Turn Rate (°/30m)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.000	0.000	0.00	
415.00	0.00	0.00	415.00	0.00	0.00	0.000	0.000	0.000	0.00	
425.00	1.17	311.44	425.00	0.07	-0.08	3.500	3.500	0.000	311.44	
559.49	35.00	311.44	551.00	27.30	-30.92	7.547	7.547	0.000	0.00	
710.32	90.00	311.44	618.00	112.48	-127.40	10.940	10.940	0.000	0.00	
1,166.20	90.00	311.45	618.00	414.21	-469.14	0.000	0.000	0.000	90.00	TW 15H TD P3

PHOENIX TECHNOLOGY SERVICES

Phoenix Technology Services

Planning Report

Database:	Compass CAN 5000 DB	Local Co-ordinate Reference:	Well Enbridge TW 15H
Company:	ENBRIDGE	TVD Reference:	KB Elev @ 188.20m (Estimated)
Project:	WILKESPORT	MD Reference:	KB Elev @ 188.20m (Estimated)
Site:	TW 15H	North Reference:	True
Well:	Enbridge TW 15H	Survey Calculation Method:	Minimum Curvature
Wellbore:	TW 15H		
Job Number	P5 (BL/DG)		

Planned Survey

Measured Depth (m)	Inclination (°)	Azimuth (°)	Vertical Depth (m)	Subsea Depth (m)	+N/-S (m)	+E/-W (m)	Vertical Section (m)	Dogleg Rate (°/30m)	Build Rate (°/30m)	Turn Rate (°/30m)
K.B.										
0.00	0.00	0.00	0.00	188.20	0.00	0.00	0.00	0.000	0.000	0.000
Kettle Point										
43.00	0.00	0.00	43.00	145.20	0.00	0.00	0.00	0.000	0.000	0.000
Surface Csg = 58.00m										
58.00	0.00	0.00	58.00	130.20	0.00	0.00	0.00	0.000	0.000	0.000
Hamilton										
106.00	0.00	0.00	106.00	82.20	0.00	0.00	0.00	0.000	0.000	0.000
Dundee										
176.00	0.00	0.00	176.00	12.20	0.00	0.00	0.00	0.000	0.000	0.000
Lucas										
206.00	0.00	0.00	206.00	-17.80	0.00	0.00	0.00	0.000	0.000	0.000
Amherstburg										
281.00	0.00	0.00	281.00	-92.80	0.00	0.00	0.00	0.000	0.000	0.000
Bois Blanc										
315.00	0.00	0.00	315.00	-126.80	0.00	0.00	0.00	0.000	0.000	0.000
Bass Islands										
339.00	0.00	0.00	339.00	-150.80	0.00	0.00	0.00	0.000	0.000	0.000
G-Shale										
377.00	0.00	0.00	377.00	-188.80	0.00	0.00	0.00	0.000	0.000	0.000
F-Shale										
384.00	0.00	0.00	384.00	-195.80	0.00	0.00	0.00	0.000	0.000	0.000
Intermediate Casing										
389.00	0.00	0.00	389.00	-200.80	0.00	0.00	0.00	0.000	0.000	0.000
E-Carbonate										
403.70	0.00	0.00	403.70	-215.50	0.00	0.00	0.00	0.000	0.000	0.000
KOP = 415.00m										
415.00	0.00	0.00	415.00	-226.80	0.00	0.00	0.00	0.000	0.000	0.000
420.00	0.58	311.44	420.00	-231.80	0.02	-0.02	0.03	3.500	3.500	0.000
Start Build 7.547°/30m DLS										
425.00	1.17	311.44	425.00	-236.80	0.07	-0.08	0.10	3.500	3.500	0.000
C-Shale										
447.46	6.82	311.44	447.40	-259.20	1.10	-1.25	1.67	7.547	7.547	0.000
450.00	7.46	311.44	449.92	-261.72	1.31	-1.48	1.98	7.547	7.547	0.000
B-Salt										
468.76	12.18	311.44	468.40	-280.20	3.43	-3.88	5.18	7.547	7.547	0.000
480.00	15.00	311.44	479.32	-291.12	5.17	-5.86	7.82	7.547	7.547	0.000
510.00	22.55	311.44	507.70	-319.50	11.56	-13.09	17.47	7.547	7.547	0.000
A-2 Carbonate										
528.52	27.21	311.44	524.50	-336.30	16.72	-18.93	25.26	7.547	7.547	0.000
540.00	30.10	311.44	534.57	-346.37	20.36	-23.06	30.76	7.547	7.547	0.000
A-2 Shale										
555.25	33.93	311.44	547.50	-359.30	25.71	-29.12	38.84	7.547	7.547	0.000
A-2 Anhydrite										
556.09	34.14	311.44	548.20	-360.00	26.02	-29.47	39.32	7.547	7.547	0.000
ICP = 559.49m - Production Casing										
559.49	35.00	311.44	551.00	-362.80	27.30	-30.92	41.24	7.547	7.547	0.000
Guelph										
564.18	36.71	311.44	554.80	-366.60	29.11	-32.98	43.99	10.940	10.940	0.000
570.00	38.83	311.44	559.40	-371.20	31.47	-35.65	47.55	10.940	10.940	0.000
600.00	49.77	311.44	580.84	-392.64	45.32	-51.33	68.48	10.940	10.940	0.000
630.00	60.71	311.44	597.91	-409.71	61.61	-69.78	93.08	10.940	10.940	0.000

PHOENIX TECHNOLOGY SERVICES

Phoenix Technology Services

Planning Report

Database:	Compass CAN 5000 DB	Local Co-ordinate Reference:	Well Enbridge TW 15H
Company:	ENBRIDGE	TVD Reference:	KB Elev @ 188.20m (Estimated)
Project:	WILKESPORT	MD Reference:	KB Elev @ 188.20m (Estimated)
Site:	TW 15H	North Reference:	True
Well:	Enbridge TW 15H	Survey Calculation Method:	Minimum Curvature
Wellbore:	TW 15H		
Job Number	P5 (BL/DG)		

Planned Survey

Measured Depth (m)	Inclination (°)	Azimuth (°)	Vertical Depth (m)	Subsea Depth (m)	+N/-S (m)	+E/-W (m)	Vertical Section (m)	Dogleg Rate (°/30m)	Build Rate (°/30m)	Turn Rate (°/30m)
660.00	71.65	311.44	610.01	-421.81	79.74	-90.32	120.49	10.940	10.940	0.000
690.00	82.59	311.44	616.69	-428.49	99.07	-112.21	149.69	10.940	10.940	0.000
Heel = 710.32m										
710.32	90.00	311.44	618.00	-429.80	112.48	-127.40	169.95	10.939	10.939	0.000
720.00	90.00	311.44	618.00	-429.80	118.89	-134.66	179.63	0.000	0.000	0.000
750.00	90.00	311.44	618.00	-429.80	138.74	-157.15	209.63	0.000	0.000	0.000
780.00	90.00	311.44	618.00	-429.80	158.60	-179.64	239.63	0.000	0.000	0.000
810.00	90.00	311.44	618.00	-429.80	178.45	-202.13	269.63	0.000	0.000	0.000
840.00	90.00	311.44	618.00	-429.80	198.31	-224.62	299.63	0.000	0.000	0.000
870.00	90.00	311.44	618.00	-429.80	218.16	-247.11	329.63	0.000	0.000	0.000
900.00	90.00	311.44	618.00	-429.80	238.02	-269.60	359.63	0.000	0.000	0.000
930.00	90.00	311.44	618.00	-429.80	257.88	-292.08	389.63	0.000	0.000	0.000
960.00	90.00	311.44	618.00	-429.80	277.73	-314.57	419.63	0.000	0.000	0.000
990.00	90.00	311.44	618.00	-429.80	297.59	-337.06	449.63	0.000	0.000	0.000
1,020.00	90.00	311.44	618.00	-429.80	317.45	-359.55	479.63	0.000	0.000	0.000
1,050.00	90.00	311.44	618.00	-429.80	337.30	-382.04	509.63	0.000	0.000	0.000
1,080.00	90.00	311.44	618.00	-429.80	357.16	-404.53	539.63	0.000	0.000	0.000
1,110.00	90.00	311.44	618.00	-429.80	377.02	-427.01	569.63	0.000	0.000	0.000
1,140.00	90.00	311.45	618.00	-429.80	396.87	-449.50	599.63	0.000	0.000	0.000
TD = 1166.20m										
1,166.20	90.00	311.45	618.00	-429.80	414.21	-469.14	625.83	0.000	0.000	0.000

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (m)	+N/-S (m)	+E/-W (m)	Northing (m)	Easting (m)	Latitude	Longitude
TW 15H TD P3 - plan hits target center - Point	0.00	0.00	618.00	414.21	-469.14	4,732,765.90	388,388.90	42° 44' 21.458 N	82° 21' 48.815 W
TW 15H Heel P4 - plan hits target center - Point	0.00	0.00	618.00	112.48	-127.40	4,732,458.78	388,725.65	42° 44' 11.680 N	82° 21' 33.791 W

Casing Points

Measured Depth (m)	Vertical Depth (m)	Name	Casing Diameter (mm)	Hole Diameter (mm)
389.00	389.00	Intermediate Casing	298.00	298.00
559.49	551.00	Production Casing	219.00	219.00

PHOENIX TECHNOLOGY SERVICES

Phoenix Technology Services

Planning Report

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Company:	ENBRIDGE	TVD Reference:	KB Elev @ 188.20m (Estimated)
Project:	WILKESPORT	MD Reference:	KB Elev @ 188.20m (Estimated)
Site:	TW 15H	North Reference:	True
Well:	Enbridge TW 15H	Survey Calculation Method:	Minimum Curvature
Wellbore:	TW 15H		
Job Number	P5 (BL/DG)		

Formations

Measured Depth (m)	Vertical Depth (m)	Name	Lithology	Dip (°)	Dip Direction (°)
0.00	0.00	K.B.		0.00	
43.00	43.00	Kettle Point		0.00	
106.00	106.00	Hamilton		0.00	
176.00	176.00	Dundee		0.00	
206.00	206.00	Lucas		0.00	
281.00	281.00	Amherstburg		0.00	
315.00	315.00	Bois Blanc		0.00	
339.00	339.00	Bass Islands		0.00	
377.00	377.00	G-Shale		0.00	
384.00	384.00	F-Shale		0.00	
403.70	403.70	E-Carbonate		0.00	
447.46	447.40	C-Shale		0.00	
468.76	468.40	B-Salt		0.00	
528.52	524.50	A-2 Carbonate		0.00	
555.25	547.50	A-2 Shale		0.00	
556.09	548.20	A-2 Anhydrite		0.00	
564.18	554.80	Guelph		0.00	

Plan Annotations

Measured Depth (m)	Vertical Depth (m)	Local Coordinates +N/-S (m)	Local Coordinates +E/-W (m)	Comment
58.00	58.00	0.00	0.00	Surface Csg = 58.00m
415.00	415.00	0.00	0.00	KOP = 415.00m
425.00	425.00	0.07	-0.08	Start Build 7.547°/30m DLS
559.49	551.00	27.30	-30.92	ICP = 559.49m
710.32	618.00	112.48	-127.40	Heel = 710.32m
1,166.20	618.00	414.21	-469.14	TD = 1166.20m

Drilling Program

TW#15 (Horiz #1) Sombra 3-15-XII

Enbridge Gas Distribution Inc.

SECTION 4.0 - DRILLING PROCEDURES

Section 4.1 - Pre Spud

1. Fresh Water Well Samples

   Obtain samples from all fresh water wells located within a 750 metre radius of the proposed well. Have routine water analysis done on all water samples by an independent laboratory in Sarnia. Ensure that copies of these reports are placed in the well files in Enbridge's office

2. Site Preparation

   Prepare drilling location as follows:

   a. Locate all drainage tiles crossing lease area
   b. Strip and properly stock pile all soil from the lease
   c. Cut, block and divert drainage tiles as required
   d. Construct adequate berms around lease and access road as required

3. Government Notification of Spud

   48 hours prior to spud, notify the Ministry of Natural Resources and Forestry – Petroleum Resources Section by fax @ (519) 873 – 4645 of the date of commencement of drilling operations

4. Signs

   Install rig signs on access road to lease.

5. Safety Meeting

   Conduct a pre-spud safety meeting for Cable Tool and Rotary crews. Tool push and all crewmembers must be present. A similar meeting shall be conducted with the remaining crew(s) as they come on duty. Additional safety meetings shall be conducted at the Wellsite Supervisor's discretion.

Section 4.2 - Conductor Casing

1. Drilling Method

   Move in and rig up Cable Tool Rig. Measure and record the distance from RF to ground and the RF elevation – include these measurements on the tower sheets and the daily report. Drill and drive 508mm casing to bedrock, to an approximate depth of 43m. Note any occurrence of water and

record type of water, depth encountered, and static level of water and/or flow rate. If fresh water is encountered during drilling, the well must be bail tested for at least 15 minutes, after the casing is landed, to ensure that the fresh water has been shut-off. If the fresh water has not been shut-off, contact Enbridge's office and be prepared to perform a cement squeeze as per Enbridge's requirements.

2. Cement Squeeze (if necessary)

If fresh water is found in the drift and is not shut-off by the conductor casing, a flow rate will be established and a cement squeeze will be performed, using the cement volumes determined by Enbridge. Wait on cement 12 hours and bail the hole dry and monitor the well for at least 15 minutes to determine if the water has been shut-off. If necessary, the process will be repeated until the water is shut-off.

Section 4.3 - Surface Hole & Surface Casing

1. Drilling Method

Drill a 508mm hole 15 metres into the Kettle Point formation, to an approximate depth of 58m. Ensure that drill cutting samples are taken every 3 metres and placed in the sample bags provided by the Ministry of Natural Resources and Forestry. The sample bags must be labeled with the well name, Township, Lot, Concession and Enbridge's name. Record on daily drilling reports any influx of fluids and/or hydrocarbons, static levels, pressures and any unusual hole conditions.

2. Casing Installation

Depending upon hole conditions encountered, the 406mm casing will be run in the following manner:

- Texas Shoe on bottom of first joint
- Centralizers on the top and bottom of the first joint and coincident with the shoe of the conductor casing
- 406mm casing to surface

3. Cementing Procedures

Move in and rig up Cementers. Ensure pressure recorder is rigged in and serviceable. Pressure charts will be attached to the job ticket. Conduct a pre-job safety meeting to confirm volumes and procedures. Establish circulation using pump truck. The casing and the hole will be circulated with fresh water for 15 minutes to clean the borehole and to fill the casing and hole prior to cementing. Pressure test surface equipment to 14 MPa. Ensure that preflush and mix water are from a clean source and that the water truck are also clean. Pump preflush of 2.0m^3 of fresh water, with the

addition of loss circulation material if necessary. Ensure that a minimum of 4 cement samples are taken and represent the cement at the beginning, middle and end of the cement job. Mix and pump sufficient Class 'G' 0-1-0% cement plus 2 to 3% $CaCl_2$ with a density of 1901 kg/m^3 to cement the casing to surface with 100% excess. Displace cement with fresh water – under displace cement such that the bottom joint of 406mm casing is full of cement. Shut-in cementing valve at surface and set casing on bottom. Wait on cement a minimum of 12 hours before slacking off casing.

4. Install 406mm x 425.5mm slip on weld casing bowl and temporarily blind flange, to secure well until drilling resumes with rotary rig. Arrange to have surface hole cuttings solidified and then disposed in an approved manner.

5. Release the cable tool rig.

Section 4.4 - Intermediate Hole & Intermediate Casing

1. BOP Installation and Pressure Testing

   Move in and rig up rotary rig. Measure and record the distance from KB to ground and the KB elevation – include these measurements on the tower sheets and the daily report.

   Install Class A (Rotary) BOPs as per MNRF requirements. After BOPs are installed and the cement samples indicate that the cement is competent, the rig will proceed to pressure test the BOPs, casing and shoe. Pressure test casing and each component of the BOPs as per Section 6.2. After successfully pressure testing the BOPs and casing, drill out cement and 0.5m of new formation and conduct a PIT, with the hole full of fresh water, using a bottom hole pressure equivalent to 18 kPa/m.

2. Drilling Method

   Drill a 375mm hole with fresh water, 5m ± into the F Shale formation, to an approximate depth of 389m. Notify Geologist 12 hours in advance of reaching intermediate casing point, so that they can be on site to determine the proper casing setting depth. When casing setting depth has been determined, circulate the hole clean and run a deviation survey. Perform a flow check prior to tripping and strap out of the hole. Fast tripping of the drill string is to be avoided in order to eliminate high annular velocities, pressure surges and swabbing (maximum rate of 27 metres per minute). Keeping hole full of fluid, trip out of hole and laydown bottom hole assembly and stand back drill collars and drill pipe,

   The potential for loss circulation exists while drilling through the Detroit River formations (Lucas and Amherstburg formations). If loss circulation is encountered use the loss circulation contingency program located in Section 4.7. Note all lost circulation intervals and monitor and record fluid loss volumes. If pit fluid must be hauled to disposal, keep solid content to a minimum to reduce costs.

Ensure that drill cutting samples are taken every 3 metres and placed in the sample bags provided by the Ministry of Natural Resources and Forestry. Surveys are to be taken every 100 metres. Deviation shall not exceed 1 degree per 100 metres and shall not exceed 2 degrees at any point. Record on daily tower sheets any influx of fluids (water and/or hydrocarbons), loss circulation (rate and depth) and/or any unusual hole conditions.

3. Casing Installation

Ensure that the threads are protected while hoisting casing to the floor. Drift all casing prior to running the casing in the well and apply proper API make-up torque to each connection.

Depending upon hole conditions encountered, the 298mm casing will be run in the following manner:

- Guide shoe
- 298mm joint of casing
- 298mm Float Insert or Float Collar
- Tack weld guide shoe, float collar and bottom 2 joints and use API modified pipe dope on all connections
- Centralizers will be installed one metre above the guide shoe, over the bottom of the first 2 collars and every 5 joints to surface
- 298mm casing to surface

4. Cementing Procedures

Move in and rig up Cementers. Ensure pressure recorder is rigged in and serviceable. Pressure charts will be attached to the job ticket. Conduct a pre-job safety meeting to confirm volumes and procedures. Establish circulation using pump truck. The casing and the hole will be circulated with fresh water for 15 minutes to clean the borehole and to fill the casing and hole prior to cementing. Pressure test surface equipment to 14MPa for 10 minutes. Preflush and mix water must be obtained from a clean source and the water trucks must be uncontaminated. Pump preflush of $3.0m^3$ of fresh water, with the addition of loss circulation material if necessary. Ensure that a minimum of 4 cement samples is taken and represent the cement at the beginning, middle and end of the cement job. Mix and pump sufficient 0-1-8% Class 'G' plus 1 to 3% $CaCl_2$ (50% excess) followed by 0-1-0% Class 'G' cement plus 1 to 3% $CaCl_2$ (30% excess) to cement casing to surface. Depending upon the severity of the loss circulation zones, thixotropic cement with additional loss circulation materials may be used to cover the loss zone. If there are no cement returns to surface, a feed rate will be established and the annulus will be grouted to surface. Drop wiper plug and displace cement and bump plug to 3.5 Mpa over final pumping pressure – do not exceed 60% of internal yield pressure of casing. Once plug is bumped and it is determined that the float is holding, bleed casing pressure back to final pumping pressure, close casing valves and bleed off surface line pressure and wash out BOPs. Wait on cement a minimum of 12 hours before slacking off casing. Remove 406mm x 425.5mm casing bowl and install the 298mm x 346.1mm casing bowl on the 298mm casing.

Section 4.5 - Production Hole & Production Casing

1. Pressure Testing

   Check cement samples for hardness – if cement samples are set to the satisfaction of the Wellsite Supervisor, proceed with installation of the BOPS. Install Class B (Rotary) BOPs as per MNRF requirements on 298mm casing bowl. Stump test BOPs prior to installation. After BOPs are installed and the cement samples indicate that the cement is competent, the rig will proceed to pressure test the BOPs, casing and shoe. Pressure test casing and each component of the BOPs as per Section 6.2. After successfully pressure testing the BOPs and casing, drill out cement and 0.5m of new formation and conduct a PIT, with the hole full of fresh water, using a bottom hole pressure equivalent to 18 kPa/m.

2. Drilling Method

   Drill a 270mm conventional hole to the kick-off point of 415m. Brine will be used to drill this portion of the well, to prevent the dissolution of the salt layers. Ensure that drill cutting samples are taken every 3 metres and placed in the sample bags provided by the Ministry of Natural Resources and Forestry. Record on daily tower sheets any influx of fluids (water and/or hydrocarbons), loss circulation (rate and depth) and any unusual hole conditions.

   At the kick-off point, circulate the hole clean, run a deviation survey and strap out of the hole. Pick up directional equipment and run in the hole with the directional bottom hole assembly. Prior to penetrating the A-2 Carbonate, the Wellsite Geologist and Wellsite Supervisor must be on-site and a BOP drill shall be completed to familiarize all on-site personnel with the proper procedures.

   Drill a 270mm directional hole a minimum of 2 metres into the A-2 Anhydrite formation, at an approximate depth of 551mTVD / 559.49mMD at an angle of 35^0. The final casing point will be determined by the Wellsite Geologist. At casing total depth, circulate the hole clean and perform a flow check prior to tripping. Fast tripping of the drill string is to be avoided in order to eliminate high annular velocities, pressure surges and swabbing (maximum rate of 27 metres per minute). Keeping hole full of brine, trip out of hole – laydown bottom hole assembly, drill pipe and drill collars.

3. Casing Installation

   Ensure that the threads are protected while hoisting casing to the floor. Drift all casing prior to running the casing in the well and apply proper API make-up torque to each connection.

   Depending upon hole conditions encountered, the 219mm casing will be run in the following manner:

   - Guide shoe

- 219mm joint of casing
- Float Insert or Float Collar
- Bottom 150 metres of 219mm casing shall have solid stand-off centralizers run on every other joint – above and below the collar
- Tack weld guide shoe, float collar and bottom 4 joints and use API modified pipe dope on all connections
- Centralizers will be installed on remaining casing – on every 5th joint to surface
- 219mm casing to surface

4. Cementing Procedures

Move in and rig up Cementers. Ensure pressure recorder is rigged in and serviceable. Pressure charts will be attached to the job ticket. Conduct a pre-job safety meeting to confirm volumes and procedures.

Establish circulation using pump truck. The casing and the hole will be circulated with brine for 15 minutes to clean the borehole and to fill the casing and hole prior to cementing. Pressure test surface equipment to 14 MPa for 10 minutes. Preflush and mix water must be obtained from a clean source and the water trucks must be uncontaminated. Pump preflush of 3.0m^3 of clean brine, with the addition of loss circulation material if necessary. Ensure that a minimum of 4 cement samples is taken and represent the cement at the beginning, middle and end of the cement job. Mix and pump sufficient Class 'G' 0-1-0% cement plus 10% NaCl, to cement the 219mm casing to surface plus 50% excess over open hole and 30% excess in cased hole. Drop wiper plug and displace cement with fresh water and bump plug to 3500 kPa over final pumping pressure – do not exceed 60% of internal yield pressure of casing. Once plug is bumped and it is determined that the float is holding, bleed casing pressure back to final pumping pressure, close casing valves and bleed off surface line pressure. Wash out BOPs and split BOP stack at 346mm flange, install 219mm slips and set slips in casing bowl. Wait on cement a minimum of 48 hours and cut casing and remove BOPs. Cut and bevel 219mm casing and install primary and secondary seals. Install 346mm x 228.6mm spool piece and test wellhead seals to 14 Mpa for 10 minutes.

Section 4.6 - Main Hole

1. Installation of the BOPs

Check cement samples for hardness – if cement samples are set to the satisfaction of the Wellsite Supervisor, proceed with installation of the BOPS. Install Class B (Rotary) BOPs as per MNRF requirements on 228.6mm flange. After BOPs are installed and the cement samples indicate that the cement is competent, move in and rig up the Wireline Company and run a cement bond log (both pressure (7000kPa) and non-pressure pass) over the 219mm casing. After the cement bond log is completed and the cement job is deemed successful, the rig will proceed to pressure test the BOPs, casing and shoe. Pressure test casing and each component of the BOPs as per Section 6.2. After

successfully pressure testing the BOPs and casing, drill out cement and 0.5m of new formation and conduct a PIT, with the hole full of fresh water, using a bottom hole pressure equivalent to 18 kPa/m.

2. Logging

   Move in and rig up Wireline Company. With hole full of fresh water, run a casing inspection log over the 219mm casing. Rig out Wireline Company and release.

3. Drilling Method

   Drill a 200mm hole with fresh water system – ensure that the frac tank is full of fresh water and water trucks have been put on alert. Drill from 551mTVD (559.49mMD) at 35^0 to 90^0 at 618mTVD (710.32mMD) and continue drilling to a depth of 1170mMD (618mTVD) for a horizontal distance of approximately 460m. After drilling 2 lengths of drill pipe, work the newly drilled hole to ensure that there will not be any issues running in and out of the open hole. A high vis sweep with floc will be added at each connection to assist with hole cleaning.

   Ensure that Wellsite Geologist is on site to monitor cuttings and liaise with Directional Drillers concerning the path of the horizontal well. Drill to TD indicated by Wellsite Geologist. At TD pump a final sweep and if possible, circulate hole until clean returns are observed at surface.

   The potential for loss circulation exists while drilling through the Guelph formation. If loss circulation is encountered, use the loss circulation contingency program located in Section 4.7. Note all lost circulation intervals and monitor and record fluid loss volumes.

   Pull out of hole with drilling assembly and laydown drill pipe, drill collars and bottom hole assembly. Move in and rig up Wireline Company complete with full lubricators. Run in hole with gauge ring to ensure clear hole to bridge plug setting depth. Run in hole with wireline set, retrievable 219mm bridge plug and place as deep as possible in the 219mm casing and pull out of hole with the setting tool. Fill hole with fresh water and pressure test plug to 7000 kPa for 10 minutes. If the plug does not hold pressure, be prepared to set another 219mm retrievable bridge plug. Release Wireline Company and release Directional Drilling Company.

   Nipple down BOPs and install 315mm x 900 ANSI full port ball (master) valve. Close master valve and install 315mm blind flange. Install pressure recorder, ensure that the well is full of fresh water and pressure test casing, wellhead and master valve to a surface pressure of 11,000 kPa for a minimum of 4 hours. Call Enbridge Office with the results.

4. Rig down rotary rig and move off of location.

5. Restore wellsite to Enbridge's specifications.

Drilling Program

TW#15 (Horiz #1) Sombra 3-15-XII

Enbridge Gas Distribution Inc.

Section 4.7 - Loss Circulation Procedure

1. Before drilling out the casing shoe:
   a. Identify sources and location of fresh water and/or brine, loss circulation materials and weight materials
   b. Ensure BOPs and manifold are properly installed
   c. Ensure auxiliary tanks are connected to the pumping system and a standby mud pump is hooked up for annular injection in case of severe loss circulation (so that fluid can be pumped down both the drill pipe and annulus simultaneously)
   d. Pressure test BOPs prior to drill out

2. After drilling out shoe:
   a. Alert water suppliers and haulers
   b. Ensure adequate amounts of fresh water and/or brine are readily available prior to penetrating the Detroit River and Guelph formations
   c. Mechanically test BOPs and perform BOP drill prior to penetrating the Detroit River and Guelph formations.

3. Drilling Blind – Detroit River formations:
   a. In an attempt to maintain or re-establish circulation, pump fluid down both the annulus and the drill pipe simultaneously
   b. Should severe loss circulation occur while drilling, the thief zone may be plugged with cement and/or loss circulation material at Enbridge's discretion.

4. Drilling Blind – Guelph
   a. In an attempt to maintain or re-establish circulation, pump fluid down both the annulus and the drill pipe simultaneously
   b. Make wiper trips or reciprocate the drill pipe to maintain a clean hole every joint or two as directed by the Wellsite Supervisor
   c. Sweep the hole every 1 to 3 joints
   d. Use a. and b. in combination
   e. At TD conduct a final sweep and then trip out BHA

SECTION 5.0 - REPORTING PROCEDURES

Section 5.1 - Tower Sheets

Shall be completed daily and shall include:

1. Bit size, fluid type and weight, weight on bit, deviation surveys, depth at the beginning of the shift and end of each shift.

2. Casing size, grade, weight, and number of joints, centralizers, cement baskets, total length and setting depth.

3. Cementing information – Service Company, cement type, amount, slurry density, additives, annular fluid returns, volume of displacement fluid and plug down time.

4. Water, gas or oil – type, depth encountered depth of sample collected and the static level and/or rate of flow.

5. Pressure tests – individually, surface pressures, fluid density used in the tests, bleed-off rate and duration of test.

6. Logging Details – type and interval.

7. Abandonment details – intervals, amount and type of cement, top of plug and time felt.

8. Rig release – date and time.

Section 5.2 – Worker Injury

Immediately provide first aid to the injured party and ensure that all personnel are removed from harm's way. Secure the area and ensure that the site is preserved in case an investigation is required.

Every work related accident or injury shall be reported immediately to the Wellsite Supervisor. The Supervisor shall immediately contact the Enbridge Gas Distribution Inc. Office, specifically the Senior Project Geologist, followed by the Reservoir Field Supervisor. The verbal report shall be followed with a written report, including but not limited to, the Contractor's Accident/Incident Investigation form. The affected Contractor is responsible to contact the proper authorities concerning the accident.

Drilling Program

TW#15 (Horiz #1) Sombra 3-15-XII

Enbridge Gas Distribution Inc.

SECTION 6.0 - SAFETY AND PROCEDURES

Section 6.1 - General Safety

1. All works at the Wellsite shall be in compliance with the Occupational Health and Safety Act and the Oil, Gas & Salt Resources Act and all associated legislation. In addition, all work at the Wellsite shall be done in compliance with good oil field practices. All verbal notifications given to and approvals received from government agencies shall be recorded on the tower sheets.

2. Safety meetings are to be held with each crew, at the start of the well and periodically while drilling – meetings shall also be held prior to cementing and upon arrival of the logging company, prior to commencement of directional drilling operations and prior to penetrating the Detroit River formations and the A-2 Carbonate formation.

3. The Wellsite Supervisor shall ensure that the operations are in compliance with all applicable government regulations and shall complete daily walk around rig inspections.

Section 6.2 – Well Control

All blowout prevention systems are to be in strict compliance with MNR regulations. The function and pressure testing guidelines required by the regulatory bodies (such as daily function testing of the pipe rams) will be strictly adhered to.

1. All pressure tests of blowout prevention equipment will be conducted with fresh water and will be conducted in 2 stages – low and high pressure. It is essential that the low pressure test be done first, to prevent the high pressure test from healing leaks that would have been noted at low pressures.

2. The following pressure test will be conducted with fresh water prior to drilling out each casing string and the results recorded on the tower sheets and daily reports:

    a. The blind rams, kill lines and choke manifold will be tested individually for 10 minutes each to:
        i. Intermediate casing 2000 kPa low & 9000 kPa high
        ii. Production casing 2000 kPa low and 10000 kPa high

    b. Run in hole with BHA, drill pipe and drill collars and pressure test the casing string, pipe rams, kelly cock, stand pipe, swivel, safety valves, etc. will be tested individually for 10 minutes each to:
        i. Surface casing 1400 kPa low and 3500 kPa high (using AP)
        ii. Intermediate casing 2000kPa low & 9000 kPa high
        iii. Production casing 2000 kPa low and 10000 kPa high

c. The annular preventer will be tested for 10 minutes to
   i. Surface casing 1400 kPa low and 3500 kPa high
   ii. Intermediate casing 2000 kPa low & 9000 kPa high
   iii. Production casing 2000 kPa low and 10000 kPa high

3. Upon drilling out the casing, drill 0.5m to 1.0m of new hole and test the formation, with the hole full of fluid, to a minimum bottom hole pressure of 18 kPa per metre.

4. After one day of drilling below the casing shoe, check the entire blowout prevention system and tighten all bolts.

5. Crews should be kept alert and familiar with the blowout prevention equipment. At least one member of the crew who has been trained in blowout prevention and well control procedures must be on the floor at all times.

6. Conduct blowout prevention drills prior to drilling out casing and once per week thereafter. Ensure that the drills are recorded in the tour book.

7. The blowout preventers are to be function tested once per tour. Ensure that the function test is recorded on the tower sheets.

Oil, Gas and Salt Resources Act

Application for a Well Licence

Ontario

Form 1 — To the Minister of Natural Resources — v.2013-10-04

The undersigned operator applies for a well licence under the Oil, Gas and Salt Resources Act and the Regulations thereunder and submits the following information, together with the application fee of $100 + 13% HST. Make cheques payable to "Minister of Finance".

1. WELL NAME T.W.#16 (HORIZ # 1) - SOMBRA 3-15-XIII — Target Formation: Guelph

Purpose of Proposed Well (Well Type): Gas Storage

2. OPERATOR Enbridge Gas Distribution Inc. — Tel # 519-862-1473 — Fax # 519-862-1178

Street Address: 3595 Tecumseh Road — City: Mooretown — Prov.: ON — Postal Code: N0N 1M0

Mailing Address: 3595 Tecumseh Road — City: Mooretown — Prov.: ON — Postal Code: N0N 1M0

Contact Name: Kathy McConnell — Contact Tel #: 519-862-6032

Email: kathy.mcconnell@enbridge.com

3. LOCATION County: Lambton — Township: Sombra

Tract: 3 — Lot: 15 — Concession: 13 — Lake Erie: Block — Tract — Licence/Lease No.

Surface location, metres from Lot Boundaries: 452.80 m North [ ] South [X] — 69.50 m East [X] West [ ]

Latitude: 42° 44' 09.365" — Longitude: 82° 21' 34.693"

Bottom-hole Lat.: 42° 44' 11.776" — Bottom-hole Long.: 82° 21' 49.215"

Within 1.6 km of Designated Storage Area? Yes [X] No [ ] — Off-target? Yes [ ] No [X]

4. WELL PARTICULARS Vertical [ ] Horizontal [X] Directional [ ] Deepening [ ] Re-entry [ ] Lateral [ ]

Rig Type: Rotary [X] Cable [X] — Well to be cored? Yes [ ] No [X] — Formation at TD: Guelph

Ground Elevation: 182.40 — Proposed Depth: 890.0 — Proposed Depth TVD: 616.00 — Proposed Start Date: 15-Mar-15

5. LANDOWNER 912176 Ontario Ltd., a wholly owned subsidiary of Enbridge Gas Distribution Inc. — Tel #: 519-862-6008

Street Address: 3595 Tecumseh Road — City: Mooretown — Prov.: ON — Postal Code: N0N 1M0

The landowner herby provides consent for the collection of their personal information, via the operator, as per Section 12 of this form. Landowner Signature:

Pooling of the Spacing Unit or unitization of the Unit Area shown on the attached well location plan has been completed (see Ont. Reg. 245/97 definitions for "pooled spacing unit" and "unitize") Yes [X] No [ ]

6. DRILLING CONTRACTOR TW Marsh Well Drilling & Servicing / Rotary Contractor - Unknown — Tel #: 519-695-6060 / Unknown

Address: Box 53 / Unknown — City: Bothwell / Unknown — Prov.: ON — Postal Code: N0P 2C0

7. PROPOSED CASING AND CEMENTING PROGRAM

Hole Size (mm)	Casing O.D. (mm)	Weight (kg/m)	Grade	New Used or in-hole	Setting Depth TVD	Setting Depth Meas.	Setting Formation	CASING SETTING INFORMATION How Set	Cement Type	Cement Top KB / RF
508	508	158.47	LS	New	41	41	Kettle Point	Driven	nil	nil
508	406	96.42	LS	New	56	56	Kettle Point	Cement	Class 'G'	surface
375	298	69.94	J55	New	384	384	F Unit	Cement	Class 'G'	surface
270	219	47.62	J55	New	560	570.1	A-2 Anhydrite	Cement	Class 'G'	surface

8. BLOW-OUT PREVENTION EQUIPMENT 20" 2M MSP Hydrill
11" 3M Annular Preventor and Double Gate (pipe and blind)

9. WELL SECURITY Name of Trustee: Harrison Pensa LLP — Total # Unplugged Wells: 154 — Current Balance: $70K

10. REMARKS Model 7000 Dual Element Passive Rotating Control Device - 11" x 2M

11. ENCLOSURES Fee [X] — Location Plan [X] (Land wells only) — Drilling Program [X]

12. NOTICE OF COLLECTION

The Ministry of Natural Resources is collecting your personal information under the authority of the *Oil, Gas and Salt Resources Act*. Any personal information provided on this application will be used for licensing and law enforcement purposes only and will be protected in accordance with the Freedom of Information and Protection of Privacy Act.

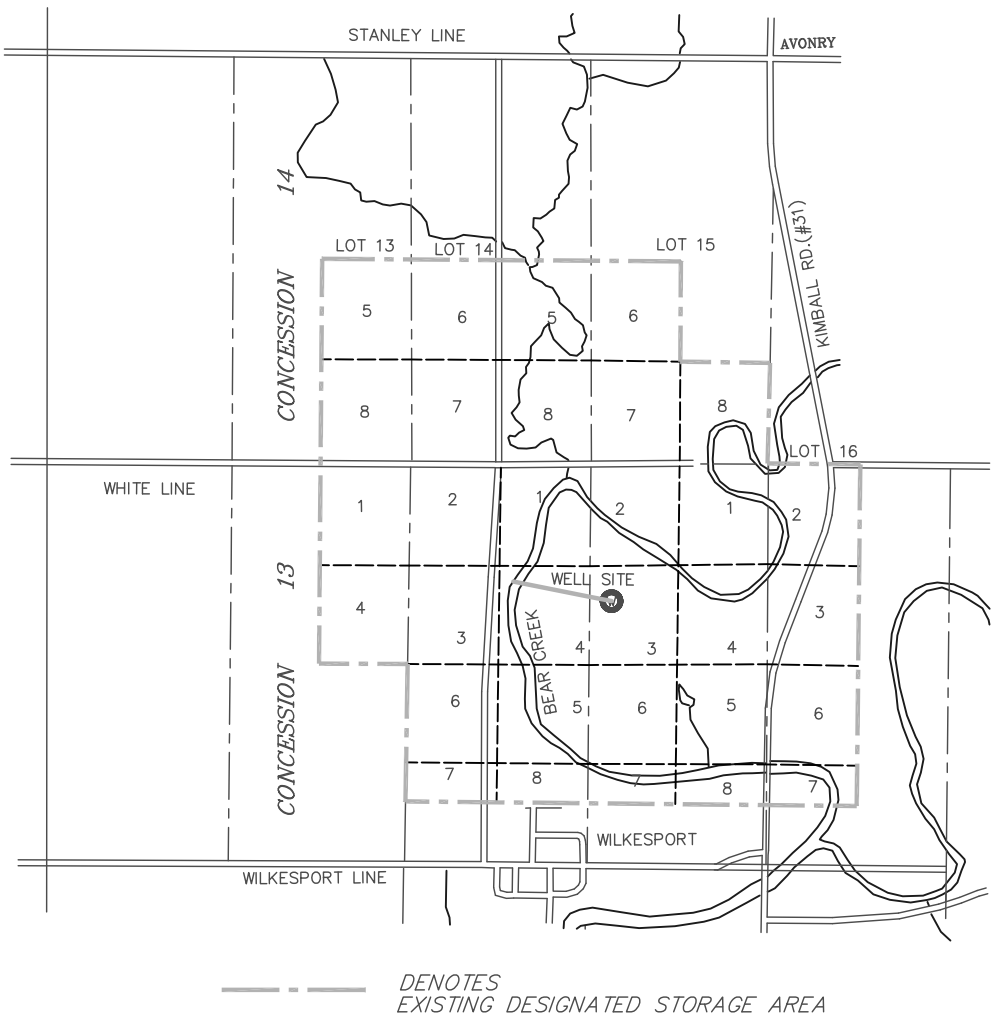
If you have questions about use of your personal information, please contact the Policy and Program Officer, Petroleum Operations Section, Ministry of Natural Resources, 659 Exeter Road, London N6E1L3, 519-873-4638.

13. AUTHORITY

The undersigned certifies that the information provided herein is complete and accurate, the operator has the right to drill or operate a well in the above location, and he/she has authority to bind the operator.

Date (d/m/y): 17.Dec.14 — Name: Kathy McConnell — Signature:

Company: Enbridge Gas Distribution Inc. — Title: Snr. Project Geologist

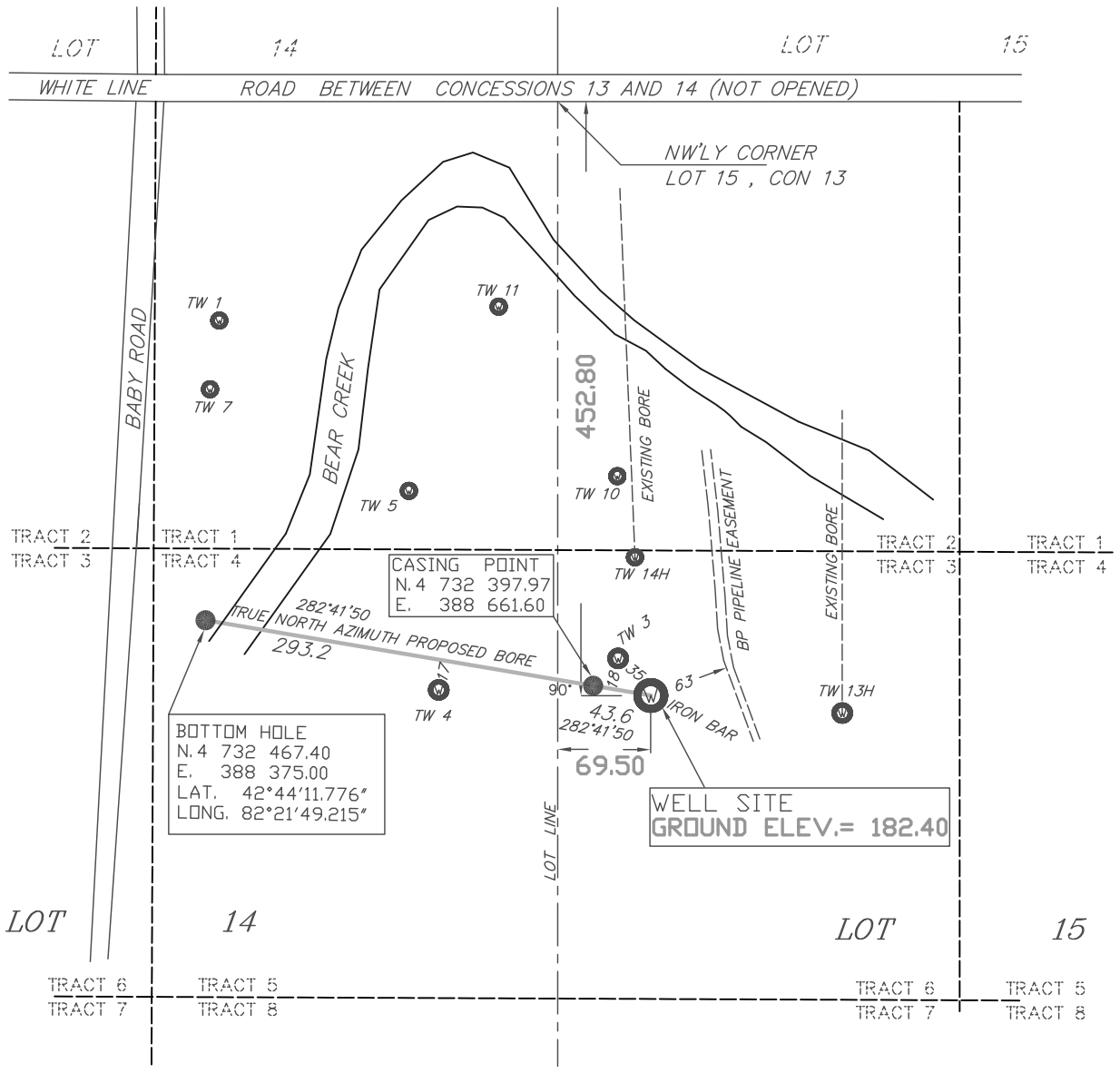


PLAN OF PROPOSED WELL
LOT 15
CONCESSION 13
GEOGRAPHIC TOWNSHIP OF SOMBRA
TOWNSHIP OF ST CLAIR
COUNTY OF LAMBTON

SCALE 1:5000

WELL NAME
T.W.#16 (HORIZ # 1) – SOMBRA – 3 – 15 – 13

NOTE (WELL SITE) CO-ORDINATES
LATITUDE N.42°44'09365" LONGITUDE W.82°21'34.693"
U.T.M. N.4 732 387.70 E.388 704.00



NOTE METRIC
DISTANCES SHOWN ON THIS PLAN ARE IN METERS AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048

NOTE GEODETIC HORIZONTAL CONTROL
U.T.M. CO-ORDINATES ARE GEODETIC (DATUM NAD 83) AND REFERRED TO GEODETIC MONUMENTS NO. 010831080 AND 010831053

NOTE BENCH MARK
ELEVATIONS ARE REFERRED TO GEODETIC DATUM AND REFERENCE BENCH MARK BEING
010831052
ELEVATION = 180.53

PREPARED BY
BRISCO AND O'ROURKE
1425331 ONTARIO LIMITED
SERVING THE PETROLEUM INDUSTRY
THROUGHOUT ONTARIO
WELLS,CONSTRUCTION AND TECHNICAL SURVEYING
DIGITAL MAPPING
LAND AND LEASE SURVEYS
OFFICE (519) 351-5073
CELL (519) 401-5073
FAX (519) 351-3119
P.O.BOX 327 - N7M-5K4
CHATHAM , ONTARIO

PREPARED FOR
ENBRIDGE GAS DISTRIBUTION INC.

FILE NO. 14-5067	PLAN NO. ENB6803.DWG

DEC.12 , 2014

TIMOTHY J. O'ROURKE C.S.T. A.C.E.T.

AUTHORIZED BY THE MINISTER OF NATURAL RESOURCES UNDER THE PETROLEUM RESOURCES ACT OF ONTARIO

TW # 16 (HORZ. #1) SOMBRA 3-15-XIII

DRILLING PROGRAM

Drilling Program

TW#16 (Horiz #1) Sombra 3-15-XII

Enbridge Gas Distribution Inc.

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Drilling Program

TW#16 (Horiz #1) Sombra 3-15-XII

Enbridge Gas Distribution Inc.

SECTION 1.0 - GENERAL DATA

Section 1.1 - Well Summary

Well Name:	TW# 16 (Horiz. # 1) Sombra 3-15-XIII
Operator:	Enbridge Gas Distribution Inc.
Surface Hole Location:	Tract 3, Lot 15, Con. 13, Sombra Twp, Lambton County N 4 732 387.7; E 388 704.0
Surface Hole Coordinates:	452.8m South; 69.5m East
Bottom Hole Location:	Tract 4, Lot 14, Con. 13, Sombra Twp, Lambton County
Bottom Hole Coordinates:	N 4 732 467.4; E 388 375.0
Ground Elevation:	182.40m
KB Elevation:	186.40m
Total Depth:	616mTVD; 890mMD
Target Formation:	Guelph
Logging Program:	CBL-GR – 219mm casing Vertilog – 219mm casing
Spud Date:	March 15, 2015
Duration:	30 days

Section 1.2 – Special Notes

1. Safety of personnel and environment is our primary concern. Section 6.1 of this program, outlines Enbridge's general safety requirements which obliges all personnel on the wellsite to follow the Occupational Health and Safety Act and Regulations (Ministry of Labour (MOL)) and the Oil, Gas & Salt Resources Act and Regulations (Ministry of Natural Resources and Forestry (MNRF)). Safety and/or environmental ("tailgate") meetings shall be conducted as per Section 6. Wellsite Supervisor shall conduct daily 'walk around' inspections of the equipment on site and record the results on the daily reports. Please refer to Section 5.2 for the procedure to be followed if a worker injury occurs.

2. The Wellsite Supervisor has authority over all activities conducted on the drilling location. The Wellsite Supervisor shall ensure that all applicable regulations and policies (MNRF, MOL, Ministry of the Environment and Climate Change (MOECC), and Enbridge) are followed and that all permits are kept on site and/or signed off as required.

3. All operations are to be to MNRF standards.

4. BOPs are to be installed, maintained and used as per MNRF requirements. Testing of the BOPs must be in accordance with Section 6.2 of this program.

5. Tower sheets must be completed daily and will include the information listed in Section 5.1 of this program. The Wellsite Supervisor will complete daily reports and forward the reports to Enbridge's office by 10am the following day.

6. The well will be drilled in 2 stages:

   a. A cable tool rig will drive the conductor casing and will drill the surface casing into the Kettle Point formation and cement the casing to surface. Drilling this portion of the well with a cable tool rig will ensure that the fresh water zone will be exposed to a minimal amount of drilling fluid.

   b. A rotary rig will be moved onto location and will drill to TD. The rotary will set the intermediate and production casings and will drill the open hole horizontal section in the Guelph reef.

7. During the rotary phase of the well, the well will be drilled with fresh water or formation brine, hauled to location by an approved contractor. The fresh water will be obtained from local municipal water systems, located at Brigden, Corruna and other available water systems. The brine used will be Guelph formation brine obtained from Enbridge's existing operations.

8. The production casing will be set in the A-2 Anhydrite to allow for an effective cement job and successful pressure testing, prior to penetrating the Guelph formation

9. Two 500 bbl frac tanks will be spotted on location prior to the drilling of the Detroit River formation. The tanks will be filled with fresh water / brine as reserve for the drilling of potential loss circulation zones. Potential loss circulation zones exist in the Detroit River formation (intermediate hole) and the Guelph formation (main hole).

Drilling Program

TW#16 (Horiz #1) Sombra 3-15-XII

Enbridge Gas Distribution Inc.

Section 1.3 - Contact Numbers

Emergency Numbers:

Police, Fire & Ambulance* 911

911 Address: 1697 Kimball Road, Wilkesport, Ontario

* For 911 Map and Map and Directions to Nearest Hospital see attached Map at end of Section 1.3

Enbridge Gas Distribution Inc.

Kathy McConnell	Senior Project Engineer	Office: 519-862-6032 Fax: 519-862-1168 Cell: 519-312-2168 kathy.mcconnell@enbridge.com
Rob Carlson	Reservoir Field Supervisor	Office: 519-862-6036 Fax: 519-862-1168 Cell: 519-312-4863 robert.carlson@enbridge.com
Terry Chupa	Land Administrator	Office: 519-862-6008 Fax: 519-862-1168 Cell: 519-384-0215 terry.chupa@enbridge.com
Control Room		Office: 519-862-6012

Drilling Supervisor:

Steve Thompson	Cell: 519-383-5404 omniconsulting@rogers.com
Wayne Bolton	Cell: 519-312-8437 kegconsulting@aim.com

Drilling Program

TW#16 (Horiz #1) Sombra 3-15-XII

Enbridge Gas Distribution Inc.

Geologist:

Neil Hoey		Office: 519-472-4776 Fax: 519-472-4776 Cell: 519-649-6918 neil_hoey@hotmail.com

Cable Tool Rig :

Terry Marsh	Terry Marsh Well Drilling & Servicing Owner / Operator	Office: 519-695-6060 Fax: 519-695-6464 Mobile: 519-359-9804 twmarshca@yahoo.com

Rotary Rig:

Keith Davis	Ecan Energy Services Inc.	Office: 519-627-3824 Fax: 519-627-5306 Mobile: 519-437-7038 kmecanen@kent.net

Directional Drillers:

Phoenix Technology Services LP.	Canadian Sales	Office: 403-543-4466 Fax: 403-543-4485 Toll Free: 866-607-4677
Bryce Lowes	Technical Marketing Representative	Office: 403-899-8099 brycelowes@phxtech.com
Dayana Gonzalez	CDN Well Planner	Office: 403-543-8497 dgonzalez@phxtech.com

Cementing:

Ian Veen	Black Creek Well Service President	Office: 519-882-4732 Fax: 519-834-2466 Cell: 519-383-4645
Jay Rookes	Schlumberger Canada Engineer-in-Charge	Office: 519-652-5053 Fax: 519-652-6002 rookes1@slb.com

Drilling Program

TW#16 (Horiz #1) Sombra 3-15-XII

Enbridge Gas Distribution Inc.

Casing, Wellheads & ESDs:

Brian DeJaegher	Wellmaster Pipe &Supply Sales Representative	Office: 519-688-0500 Fax: 519-688-0563 bdejaegher@wellmaster.ca
Graham Shone	DNow Manager	Office: 519-336-9797 Fax: 519-336-9733 graham.shone@dnow.com
Karen Derrick	Stream-Flo Ltd. Technical Sales Rep.	Office: 832-647-0710 Fax: 519-688-0563 kderrick@streamflo.com
Craig Fisher	Weatherford Wellhead Sales Manager	Office: 403-693-7545 Fax: 403-693-7722 craig.fisher@ca.weatherford.com

Drill Bits:

Brad Takenaka	Varel Rock Bits Canada Sales Manager	Office: 403-968-9369 Cell: 403-303-2533 btakenaka@varelintl.com
Mike Kellar	Trendon Bit Service Ltd. Director, Sales	Office: 403-990-1299 mkellar@trendoninc.com

Wireline Services:

Gord Mackenzie	Baker Atlas Station Manager	Office: 519-332-8030 Fax: 519-332-4714 Cell: 519-339-6783 gord.mackenzie@bakerhughes.com
Dave Tipping	Weatherford Canada – Wireline & Logging Services Station Manager	Office: 519-683-2010 Fax: 519-683-2577 Cell: 519-436-3541 dave.tipping@canada.weatherford.com

Water Hauling:

Keith McKeegan	President	Office: 519-864-1037

Drilling Program

TW#16 (Horiz #1) Sombra 3-15-XII

Enbridge Gas Distribution Inc.

	McKeegan Trucking Limited	Fax: 519-864-1036 Cell: 519-490-4042
Denis Marcus	President Harold Marcus Limited	Office: 519-695-3735 Fax: 519-695-2249 Cell: 519-380-5238 dmarcus@haroldmarcus.com
Aaron Verstraete	President Oil Patch Services	Office: 519-676-6747 Fax: 519-676-7932 Cell: 519-380-5473 ops.aaron@bellnet.ca

Rental Equipment:

Dale Holland	Wheatley Wireline Services Ltd.	Office: 519-825-3680 Fax: 519-825-9348 Cell: 519-322-8015
Keith Davis	Ecan Energy Services Inc.	Office: 519-627-3824 Fax: 519-627-5306 Cell: 519-437-7038 kmecanen@kent.net
Brian Lackie	Weatherford Fishing Supervisor & Shop Manager	Office: 780-955-7933 Cell: 780-490-8710 brian.lackie@ca.weatherford.com
Orval Beam	Orval L. Beam Limited Operations Manager Tank Rentals	Office: 519-436-0164 Fax: 519-436-0164 Cell: 519-436-4801

Welders:

John Dawson	St. Clair Mechanical President	Office: 519-864-0927 Fax: 519-864-0801 Cell: 519-330-9672

Government & Other Agencies:

MNR	Petroleum Resources Centre	Office: 519-873-4634 Fax: 519-873-4645

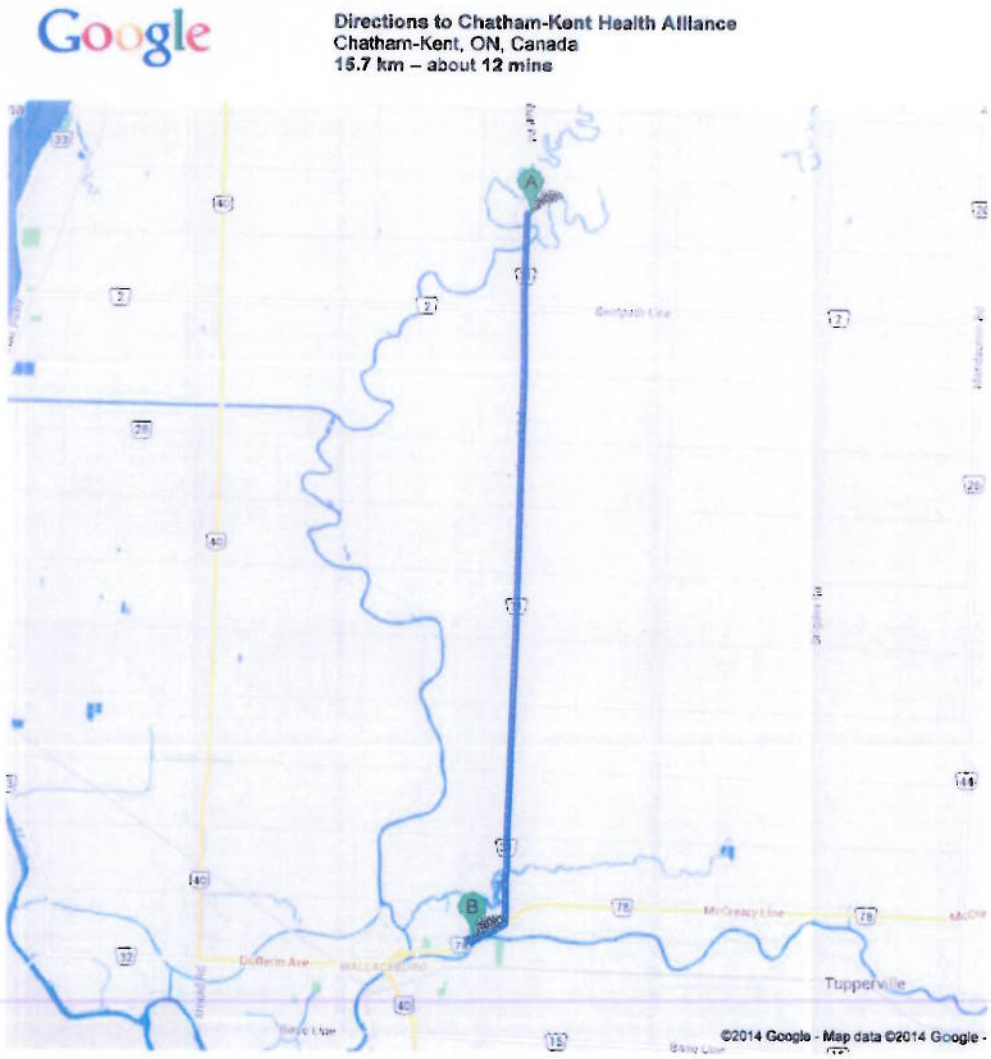
Drilling Program

TW#16 (Horiz #1) Sombra 3-15-XII

Enbridge Gas Distribution Inc.

		ogsr.mnr.gov.on.ca
MOEE	Spill Reporting	1-800-268-6060
MOL	Health & Safety	1-800-265-1676
Oil, Gas & Salt Resources Library		Office: 519-686-2772 Fax: 519-686-7225

911 Map & Directions to Nearest Hospital:

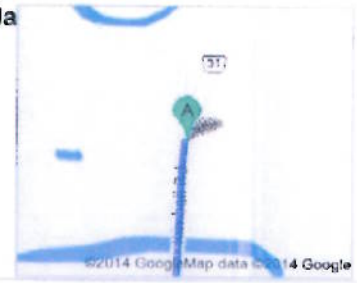


Drilling Program

TW#16 (Horiz #1) Sombra 3-15-XII

Enbridge Gas Distribution Inc.

A 1697 Kimball Rd, Wilkesport, ON N0P 2R0, Canada



1. **Head south on Kimball Rd/Lambton County Rd 31 toward Wilkesport Line**
   Continue to follow Kimball Rd
   About 10 mins

go 14.7 km
total 14.7 km

2. **Turn right onto Margaret Ave/Hwy 78/Chatham-Kent County Rd 78**
   About 56 secs

go 800 m
total 15.5 km

3. **Turn right onto Dora Dr**

go 69 m
total 15.6 km

4. **Turn right**
   Destination will be on the left

go 49 m
total 15.7 km

Drilling Program

TW#16 (Horiz #1) Sombra 3-15-XII

Enbridge Gas Distribution Inc.

Section 2.0 - Geological Prognosis

Elevation: 186.4m

Formation	Top	Elevation	Thickness	Gas	Oil	Water	Pressure
K.B.	0.0	186.4	4.6				
Drift	4.0	182.4	36.7			Fresh @ 37m	
Kettle Point	40.7	145.7	64.6				
Hamilton	105.3	81.1	68.9				
Dundee	174.2	12.2	32.6			Sulphur @184m	
Lucas	206.8	-20.4	68.9				
Amherstburg	275.7	-89.3	40.8				
Bois Blanc	316.5	-130.1	20.5				
Bass Islands	337.0	-150.6	36.2				
G-Shale	373.2	-186.8	5.8				
F-Shale	379.0	-192.6	30.8				
F-Salt	missing						
E-Carbonate	409.8	-223.4	39.0				
D-Salt	missing						
C-Shale	448.8	-262.4	24.9				
B-Salt	473.7	-287.3	53.9				
A-2 Carbonate	527.6	-341.2	28.8				
A-2 Shale	550.9	-364.5	5.5				
A-2 Salt	missing						
A-2 Anhydrite	556.4	-370.0	9.6				
A-1 Carbonate	missing						
A-1 Evaporite	missing						
Guelph	566.0	-379.6	200±	XX	X X		4200 kPa

Note: Prognosis with TVD tops.
Note: TW3 Sombra 15-XIII & TW4 Sombra 14-XIII used to build prognosis

Drilling Program

TW#16 (Horiz #1) Sombra 3-15-XII

Enbridge Gas Distribution Inc.

Section 3.0 - Casing and Cementing Summary

Section 3.1 - Summary

Hole Size (mm)	Casing Size (mm)	Casing Grade	Casing Weight (kg/m)	Setting Depth (mKB)	How Set
508	508	LS	158.47	41	Driven – cement squeeze if necessary
508	406	LS	96.42	56	Cemented to surface with 100% excess Class G 0-1-0 cement + 2 – 3% $CaCl_2$
375	298	J-55	69.94	384	Cemented to surface with Class 'G' 0-1-8% plus 1 to 3% $CaCl_2$, followed by Class 'G' neat cement plus 1 to 3% $CaCl_2$. Cement volumes will be calculated with a 50% excess- gel cement and 30% excess – neat cement. Depending upon hole conditions, consideration may be given to running thixotropic cement plus additional loss circulation materials, across porous zone(s).
270	219	J-55	47.62	560m TVD 570.1m MD	Cemented to surface with Class 'G' 0-1-0% plus 1 to 2% $CaCl_2$ plus 10% NaCl. Cement volumes will be calculated with a 50% excess on the open hole section and 30% excess on the cased hole section.

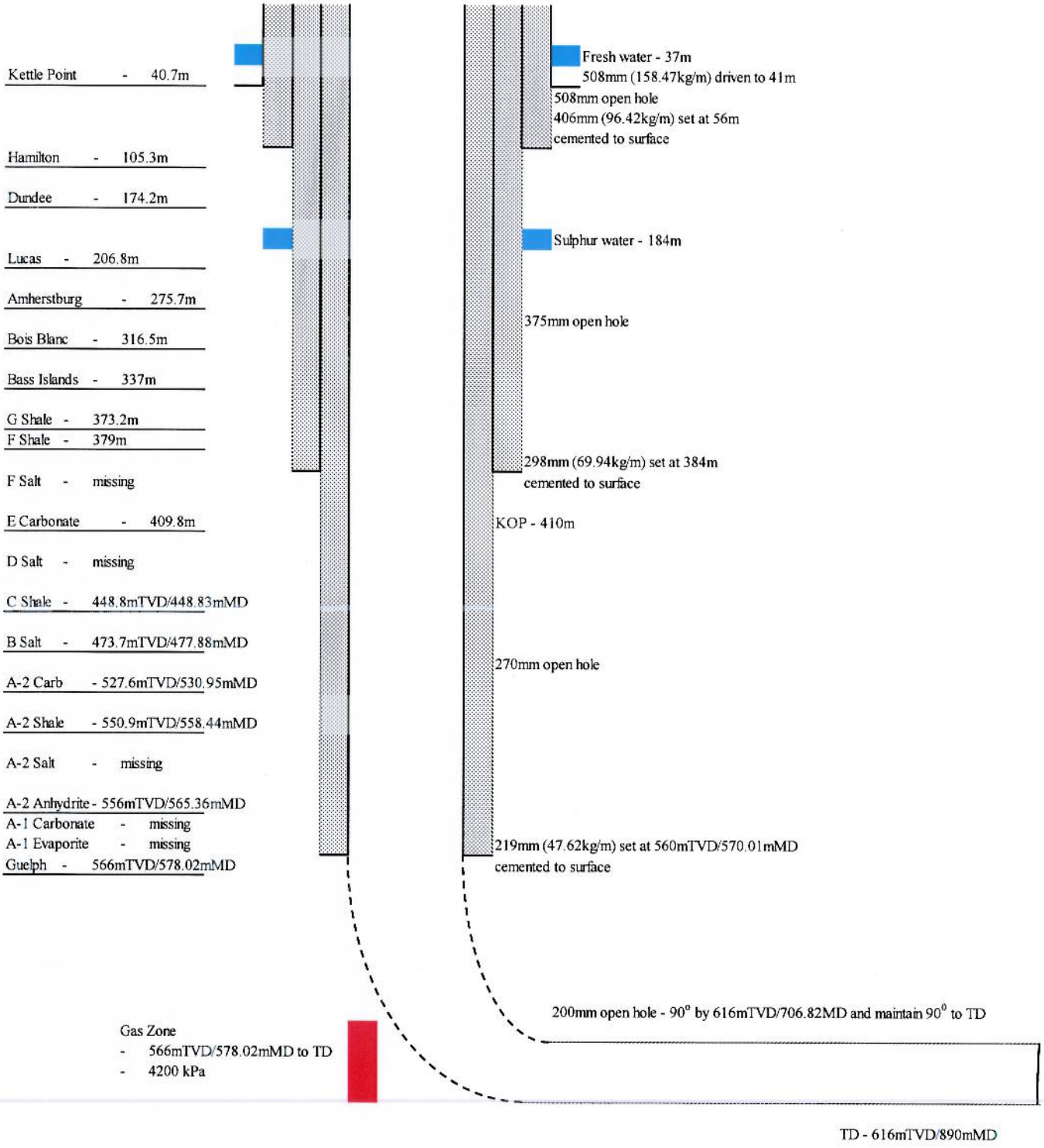
Main Hole: 200mm open hole will be drilled from 560m TVD at 40^0 and will reach 90^0 at 616mTVD (706.82mMD) and will be drilled horizontally for approximately 183m to a TD of 616mTVD (890mMD) at 90^0.

Drilling Program

TW#16 (Horiz #1) Sombra 3-15-XII

Enbridge Gas Distribution Inc.

Section 3.2 - Wellbore Diagram



Drilling Program

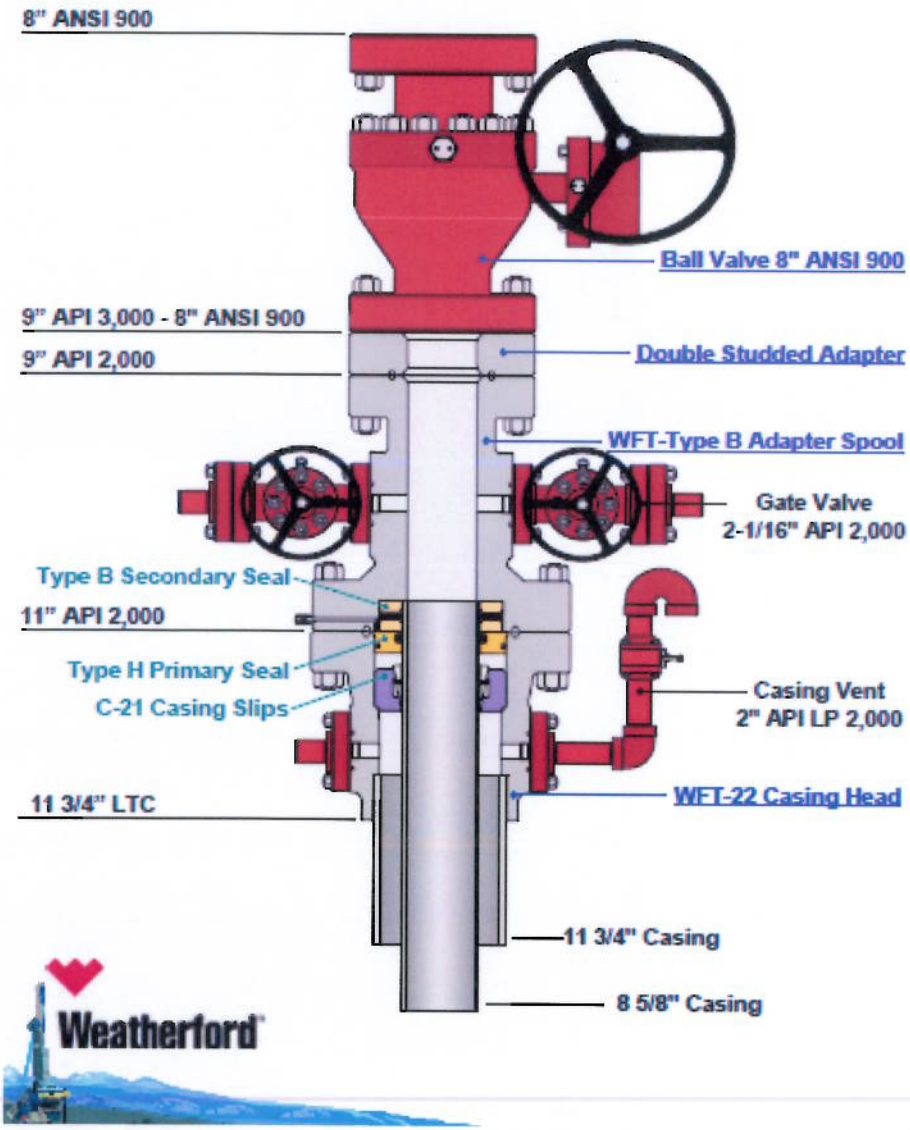
TW#16 (Horiz #1) Sombra 3-15-XII

Enbridge Gas Distribution Inc.

Section 3.3 - Wellhead Summary

Weatherford 13.8 MPa Wellhead:

406mm x 425.5mm slip on casing bowl (for BOP installation)
298mm x 340mm slip on casing bowl
340mm x 228.6mm spool c/w 2 gate valves on side outlets
203.2mm ANSI 900 Cameron Grove full port ball valve

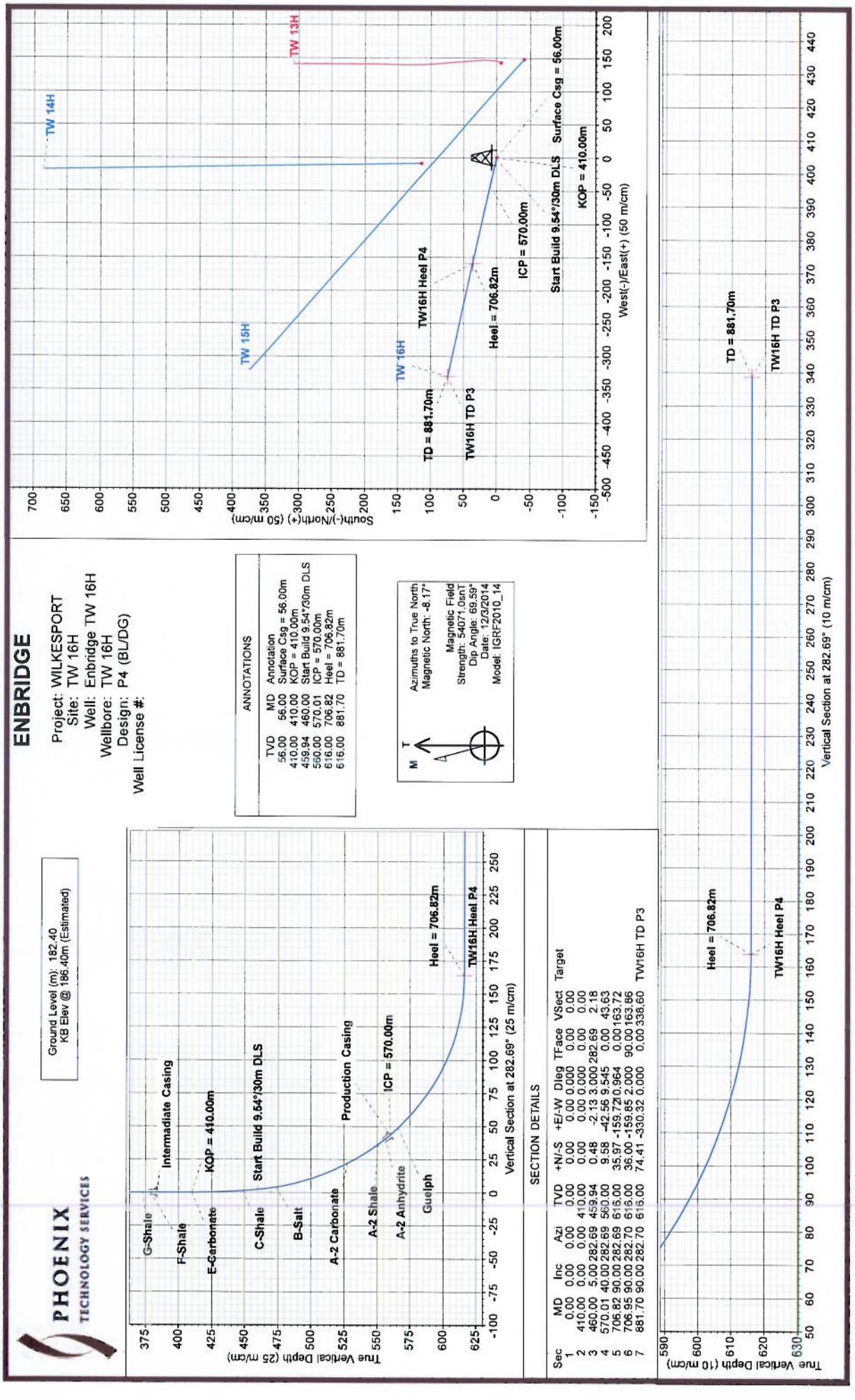


Drilling Program

TW#16 (Horiz #1) Sombra 3-15-XII

Enbridge Gas Distribution Inc.

Section 3.4 - Directional Planning Report


PHOENIX
TECHNOLOGY SERVICES
ENBRIDGE
Project: WILKESPORT
Site: TW 16H
Well: Enbridge TW 16H
Wellbore: TW 16H
Design: P4 (BL/DG)
Well License #:
Ground Level (m): 182.40
KB Elev @ 186.40m (Estimated)
ANNOTATIONS
TVD MD Annotation
56.00 56.00 Surface Csg = 56.00m
410.00 410.00 KOP = 410.00m
459.94 460.00 Start Build 9.54°/30m DLS
560.00 570.01 ICP = 570.00m
616.00 706.82 Heel = 706.82m
616.00 881.70 TD = 881.70m
Azimuths to True North
Magnetic North: -8.17°
Magnetic Field
Strength: 54071.0snT
Dip Angle: 69.59°
Date: 12/3/2014
Model: IGRF2010_14
SECTION DETAILS
Sec MD Inc Azi TVD +N/-S +E/-W Dleg TFace VSect Target
1 0.00 0.00 0.00 0.00 0.00 0.00 0.000 0.00 0.00
2 410.00 0.00 0.00 410.00 0.00 0.00 0.000 0.00 0.00
3 460.00 5.00 282.69 459.94 0.48 -2.13 3.000 282.69 2.18
4 570.01 40.00 282.69 560.00 9.58 -42.56 9.545 0.00 43.63
5 706.82 90.00 282.69 616.00 35.97 -159.72 0.964 0.00 163.72
6 706.95 90.00 282.70 616.00 36.00 -159.85 2.000 90.00 163.86
7 881.70 90.00 282.70 616.00 74.41 -330.32 0.000 0.00 338.60 TW16H TD P3
Intermadiate Casing
KOP = 410.00m
Start Build 9.54°/30m DLS
Production Casing
ICP = 570.00m
Heel = 706.82m
TW16H Heel P4
G-Shale
F-Shale
E-Carbonate
C-Shale
B-Salt
A-2 Carbonate
A-2 Shale
A-2 Anhydrite
Guelph
True Vertical Depth (25 m/cm)
Vertical Section at 282.69° (25 m/cm)
TW 14H
TW 15H
TW 16H
TW 13H
TW16H Heel P4
TD = 881.70m
TW16H TD P3
Heel = 706.82m
ICP = 570.00m
Start Build 9.54°/30m DLS
Surface Csg = 56.00m
KOP = 410.00m
South(-)/North(+) (50 m/cm)
West(-)/East(+) (50 m/cm)
True Vertical Depth (10 m/cm)
Vertical Section at 282.69° (10 m/cm)

PHOENIX TECHNOLOGY SERVICES

Phoenix Technology Services

Planning Report

Database:	Compass CAN 5000 DB	Local Co-ordinate Reference:	Well Enbridge TW 16H
Company:	ENBRIDGE	TVD Reference:	KB Elev @ 186.40m (Estimated)
Project:	WILKESPORT	MD Reference:	KB Elev @ 186.40m (Estimated)
Site:	TW 16H	North Reference:	True
Well:	Enbridge TW 16H	Survey Calculation Method:	Minimum Curvature
Wellbore:	TW 16H		
Job Number	P4 (BL/DG)		

Project WILKESPORT

Map System:	Universal Transverse Mercator	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Zone 17N (84 W to 78 W)		Using geodetic scale factor

Site TW 16H

Site Position:		**Northing:**	4,732,387.70 m	**Latitude:**	42° 44' 9.365 N
From:	Map	**Easting:**	388,704.00 m	**Longitude:**	82° 21' 34.693 W
Position Uncertainty:	0.00 m	**Slot Radius:**	335.28 mm	**Grid Convergence:**	-0.92 °

Well Enbridge TW 16H

Well Position	**+N/-S**	0.00 m	**Northing:**	4,732,387.70 m	**Latitude:**	42° 44' 9.365 N
	+E/-W	0.00 m	**Easting:**	388,704.00 m	**Longitude:**	82° 21' 34.693 W
Position Uncertainty		0.00 m	**Wellhead Elevation:**	0.00 m	**Ground Level:**	182.40 m

Wellbore TW 16H

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010_14	12/3/2014	-8.17	69.59	54,071

Job Number P4 (BL/DG)

Audit Notes:

Version:		**Phase:**	PROTOTYPE	**Tie On Depth:**	0.00

Vertical Section:	Depth From (TVD) (m)	+N/-S (m)	+E/-W (m)	Direction (°)
	0.00	0.00	0.00	282.69

Plan Sections

Measured Depth (m)	Inclination (°)	Azimuth (°)	Vertical Depth (m)	+N/-S (m)	+E/-W (m)	Dogleg Rate (°/30m)	Build Rate (°/30m)	Turn Rate (°/30m)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.000	0.000	0.00	
410.00	0.00	0.00	410.00	0.00	0.00	0.000	0.000	0.000	0.00	
460.00	5.00	282.69	459.94	0.48	-2.13	3.000	3.000	0.000	282.69	
570.01	40.00	282.69	560.00	9.58	-42.56	9.545	9.545	0.000	0.00	
706.82	90.00	282.69	616.00	35.97	-159.72	10.964	10.964	0.000	0.00	
706.95	90.00	282.70	616.00	36.00	-159.85	2.000	0.000	2.000	90.00	
881.70	90.00	282.70	616.00	74.41	-330.32	0.000	0.000	0.000	0.00	TW16H TD P3

PHOENIX TECHNOLOGY SERVICES

Phoenix Technology Services

Planning Report

Database:	Compass CAN 5000 DB	Local Co-ordinate Reference:	Well Enbridge TW 16H
Company:	ENBRIDGE	TVD Reference:	KB Elev @ 186.40m (Estimated)
Project:	WILKESPORT	MD Reference:	KB Elev @ 186.40m (Estimated)
Site:	TW 16H	North Reference:	True
Well:	Enbridge TW 16H	Survey Calculation Method:	Minimum Curvature
Wellbore:	TW 16H		
Job Number	P4 (BL/DG)		

Planned Survey

Measured Depth (m)	Inclination (°)	Azimuth (°)	Vertical Depth (m)	Subsea Depth (m)	+N/-S (m)	+E/-W (m)	Vertical Section (m)	Dogleg Rate (°/30m)	Build Rate (°/30m)	Turn Rate (°/30m)
0.00	0.00	0.00	0.00	186.40	0.00	0.00	0.00	0.000	0.000	0.000
Kettle Point										
40.70	0.00	0.00	40.70	145.70	0.00	0.00	0.00	0.000	0.000	0.000
Surface Csg = 56.00m										
56.00	0.00	0.00	56.00	130.40	0.00	0.00	0.00	0.000	0.000	0.000
Hamilton										
105.30	0.00	0.00	105.30	81.10	0.00	0.00	0.00	0.000	0.000	0.000
Dundee										
174.20	0.00	0.00	174.20	12.20	0.00	0.00	0.00	0.000	0.000	0.000
Lucas										
206.80	0.00	0.00	206.80	-20.40	0.00	0.00	0.00	0.000	0.000	0.000
Amherstburg										
275.70	0.00	0.00	275.70	-89.30	0.00	0.00	0.00	0.000	0.000	0.000
Bois Blanc										
316.50	0.00	0.00	316.50	-130.10	0.00	0.00	0.00	0.000	0.000	0.000
Bass Islands										
337.00	0.00	0.00	337.00	-150.60	0.00	0.00	0.00	0.000	0.000	0.000
G-Shale										
373.20	0.00	0.00	373.20	-186.80	0.00	0.00	0.00	0.000	0.000	0.000
F-Shale										
379.00	0.00	0.00	379.00	-192.60	0.00	0.00	0.00	0.000	0.000	0.000
Intermadiate Casing										
384.00	0.00	0.00	384.00	-197.60	0.00	0.00	0.00	0.000	0.000	0.000
E-Carbonate										
409.80	0.00	0.00	409.80	-223.40	0.00	0.00	0.00	0.000	0.000	0.000
KOP = 410.00m										
410.00	0.00	0.00	410.00	-223.60	0.00	0.00	0.00	0.000	0.000	0.000
420.00	1.00	282.69	420.00	-233.60	0.02	-0.09	0.09	3.000	3.000	0.000
C-Shale										
448.83	3.88	282.69	448.80	-262.40	0.29	-1.28	1.32	3.000	3.000	0.000
450.00	4.00	282.69	449.97	-263.57	0.31	-1.36	1.40	3.000	3.000	0.000
Start Build 9.54°/30m DLS										
460.00	5.00	282.69	459.94	-273.54	0.48	-2.13	2.18	3.000	3.000	0.000
B-Salt										
473.88	9.41	282.69	473.70	-287.30	0.86	-3.83	3.92	9.545	9.545	0.000
480.00	11.36	282.69	479.72	-293.32	1.10	-4.90	5.03	9.545	9.545	0.000
510.00	20.91	282.69	508.51	-322.11	2.93	-13.03	13.35	9.545	9.545	0.000
A-2 Carbonate										
530.95	27.57	282.69	527.60	-341.20	4.82	-21.41	21.95	9.545	9.545	0.000
540.00	30.45	282.69	535.51	-349.11	5.79	-25.69	26.34	9.545	9.545	0.000
A-2 Shale										
558.44	36.32	282.69	550.90	-364.50	8.01	-35.59	36.48	9.545	9.545	0.000
A-2 Anhydrite										
565.36	38.52	282.69	556.40	-370.00	8.94	-39.69	40.69	9.545	9.545	0.000
570.00	40.00	282.69	559.99	-373.59	9.58	-42.56	43.62	9.545	9.545	0.000
ICP = 570.00m - Production Casing										
570.01	40.00	282.69	560.00	-373.60	9.58	-42.56	43.63	9.545	9.545	0.000
Guelph										
578.02	42.93	282.69	566.00	-379.60	10.75	-47.73	48.93	10.964	10.964	0.000
600.00	50.96	282.69	581.00	-394.60	14.27	-63.39	64.98	10.964	10.964	0.000
630.00	61.92	282.69	597.55	-411.15	19.76	-87.74	89.94	10.964	10.964	0.000
660.00	72.89	282.69	609.06	-422.66	25.83	-114.72	117.60	10.964	10.964	0.000

PHOENIX TECHNOLOGY SERVICES

Phoenix Technology Services

Planning Report

Database:	Compass CAN 5000 DB	Local Co-ordinate Reference:	Well Enbridge TW 16H
Company:	ENBRIDGE	TVD Reference:	KB Elev @ 186.40m (Estimated)
Project:	WILKESPORT	MD Reference:	KB Elev @ 186.40m (Estimated)
Site:	TW 16H	North Reference:	True
Well:	Enbridge TW 16H	Survey Calculation Method:	Minimum Curvature
Wellbore:	TW 16H		
Job Number	P4 (BL/DG)		

Planned Survey

Measured Depth (m)	Inclination (°)	Azimuth (°)	Vertical Depth (m)	Subsea Depth (m)	+N/-S (m)	+E/-W (m)	Vertical Section (m)	Dogleg Rate (°/30m)	Build Rate (°/30m)	Turn Rate (°/30m)
690.00	83.85	282.69	615.10	-428.70	32.28	-143.35	146.93	10.964	10.964	0.000
Heel = 706.82m										
706.82	90.00	282.69	616.00	-429.60	35.97	-159.72	163.72	10.963	10.963	0.000
706.95	90.00	282.70	616.00	-429.60	36.00	-159.85	163.86	2.036	0.000	2.036
720.00	90.00	282.70	616.00	-429.60	38.86	-172.58	176.90	0.000	0.000	0.000
750.00	90.00	282.70	616.00	-429.60	45.46	-201.85	206.90	0.000	0.000	0.000
780.00	90.00	282.70	616.00	-429.60	52.05	-231.11	236.90	0.000	0.000	0.000
810.00	90.00	282.70	616.00	-429.60	58.65	-260.38	266.90	0.000	0.000	0.000
840.00	90.00	282.70	616.00	-429.60	65.24	-289.65	296.90	0.000	0.000	0.000
870.00	90.00	282.70	616.00	-429.60	71.84	-318.91	326.90	0.000	0.000	0.000
TD = 881.70m										
881.70	90.00	282.70	616.00	-429.60	74.41	-330.32	338.60	0.000	0.000	0.000

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (m)	+N/-S (m)	+E/-W (m)	Northing (m)	Easting (m)	Latitude	Longitude
TW16H TD P3 - plan hits target center - Point	0.00	0.00	616.00	74.41	-330.32	4,732,467.40	388,375.00	42° 44' 11.776 N	82° 21' 49.215 W
TW16H Heel P4 - plan hits target center - Point	0.00	0.00	616.00	35.97	-159.72	4,732,426.22	388,544.92	42° 44' 10.530 N	82° 21' 41.715 W

Casing Points

Measured Depth (m)	Vertical Depth (m)	Name	Casing Diameter (mm)	Hole Diameter (mm)
384.00	384.00	Intermadiate Casing	298.00	298.00
570.01	560.00	Production Casing	219.00	219.00

PHOENIX TECHNOLOGY SERVICES

Phoenix Technology Services
Planning Report

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Company:	ENBRIDGE	TVD Reference:	KB Elev @ 186.40m (Estimated)
Project:	WILKESPORT	MD Reference:	KB Elev @ 186.40m (Estimated)
Site:	TW 16H	North Reference:	True
Well:	Enbridge TW 16H	Survey Calculation Method:	Minimum Curvature
Wellbore:	TW 16H		
Job Number	P4 (BL/DG)		

Formations

Measured Depth (m)	Vertical Depth (m)	Name	Lithology	Dip (°)	Dip Direction (°)
40.70	40.70	Kettle Point			
105.30	105.30	Hamilton			
174.20	174.20	Dundee			
206.80	206.80	Lucas			
275.70	275.70	Amherstburg			
316.50	316.50	Bois Blanc			
337.00	337.00	Bass Islands			
373.20	373.20	G-Shale			
379.00	379.00	F-Shale			
409.80	409.80	E-Carbonate			
448.83	448.80	C-Shale			
473.88	473.70	B-Salt			
530.95	527.60	A-2 Carbonate			
558.44	550.90	A-2 Shale			
565.36	556.40	A-2 Anhydrite			
578.02	566.00	Guelph			

Plan Annotations

Measured Depth (m)	Vertical Depth (m)	Local Coordinates +N/-S (m)	Local Coordinates +E/-W (m)	Comment
56.00	56.00	0.00	0.00	Surface Csg = 56.00m
410.00	410.00	0.00	0.00	KOP = 410.00m
460.00	459.94	0.48	-2.13	Start Build 9.54°/30m DLS
570.01	560.00	9.58	-42.56	ICP = 570.00m
706.82	616.00	35.97	-159.72	Heel = 706.82m
881.70	616.00	74.41	-330.32	TD = 881.70m

Drilling Program

TW#16 (Horiz #1) Sombra 3-15-XII

Enbridge Gas Distribution Inc.

SECTION 4.0 - DRILLING PROCEDURES

Section 4.1 - Pre Spud

1. Fresh Water Well Samples

   Obtain samples from all fresh water wells located within a 750 metre radius of the proposed well. Have routine water analysis done on all water samples by an independent laboratory. Ensure that copies of these reports are placed in the well files in Enbridge's office

2. Site Preparation

   Prepare drilling location as follows:

   a. Locate all drainage tiles crossing lease area
   b. Strip and properly stock pile all soil from the lease
   c. Cut, block and divert drainage tiles as required
   d. Construct adequate berms around lease and access road as required

3. Government Notification of Spud

   48 hours prior to spud, notify the Ministry of Natural Resources and Forestry – Petroleum Resources Section by fax @ (519) 873 – 4645 of the date of commencement of drilling operations

4. Signs

   Install rig signs on access road to lease.

5. Safety Meeting

   Conduct a pre-spud safety meeting for Cable Tool and Rotary crews. Tool push and all crew members must be present. A similar meeting shall be conducted with the remaining crew(s) as they come on duty. Additional safety meetings shall be conducted at the Wellsite Supervisor's discretion.

Section 4.2 - Conductor Casing

1. Drilling Method

   Move in and rig up Cable Tool Rig. Measure and record the distance from RF to ground and the RF elevation – include these measurements on the tower sheets and the daily report. Drill and drive 508mm casing to bedrock, to an approximate depth of 41m. Note any occurrence of water and record type of water, depth encountered, and static level of water and/or flow rate. If fresh water is

encountered during drilling, the well must be bail tested for at least 15 minutes, after the casing is landed, to ensure that the fresh water has been shut-off. If the fresh water has not been shut-off, contact Enbridge's office and be prepared to perform a cement squeeze as per Enbridge's requirements.

2. Cement Squeeze (if necessary)

   If fresh water is found in the drift and is not shut-off by the conductor casing, a flow rate will be established and a cement squeeze will be performed, using the cement volumes determined by Enbridge. Wait on cement 12 hours and bail the hole dry and monitor the well for at least 15 minutes to determine if the water has been shut-off. If necessary, the process will be repeated until the water is shut-off.

Section 4.3 - Surface Hole & Surface Casing

1. Drilling Method

   Drill a 508mm hole 15 metres into the Kettle Point formation, to an approximate depth of 56m. Ensure that drill cutting samples are taken every 3 metres and placed in the sample bags provided by the Ministry of Natural Resources and Forestry. The sample bags must be labeled with the well name, Township, Lot, Concession and Enbridge's name. Record on daily drilling reports any influx of fluids and/or hydrocarbons, static levels, pressures and any unusual hole conditions.

2. Casing Installation

   Depending upon hole conditions encountered, the 406mm casing will be run in the following manner:

   - Texas Shoe on bottom of first joint
   - Centralizers on the top and bottom of the first joint and coincident with the shoe of the conductor casing
   - 406mm casing to surface

3. Cementing Procedures

   Move in and rig up Cementers. Ensure pressure recorder is rigged in and serviceable. Pressure charts will be attached to the job ticket. Conduct a pre-job safety meeting to confirm volumes and procedures. Establish circulation using pump truck. The casing and the hole will be circulated with fresh water for 15 minutes to clean the borehole and to fill the casing and hole prior to cementing. Pressure test surface equipment to 14 MPa. Ensure that preflush and mix water are from a clean source and that the water truck are also clean. Pump preflush of 2.0m^3 of fresh water, with the addition of loss circulation material if necessary. Ensure that a minimum of 4 cement samples are

taken and represent the cement at the beginning, middle and end of the cement job. Mix and pump sufficient Class 'G' 0-1-0% cement plus 2 to 3% $CaCl_2$ with a density of 1901 kg/m^3 to cement the casing to surface with 100% excess. Displace cement with fresh water – under displace cement such that the bottom joint of 406mm casing is full of cement. Shut-in cementing valve at surface and set casing on bottom. Wait on cement a minimum of 12 hours before slacking off casing.

4. Install 406mm x 425.5mm slip on weld casing bowl and temporarily blind flange, to secure well until drilling resumes with rotary rig. Arrange to have surface hole cuttings solidified and then disposed in an approved manner.

5. Release the cable tool rig.

Section 4.4 - Intermediate Hole & Intermediate Casing

1. BOP Installation and Pressure Testing

   Move in and rig up rotary rig. Measure and record the distance from KB to ground and the KB elevation – include these measurements on the tower sheets and the daily report.

   Install Class A (Rotary) BOPs as per MNRF requirements. After BOPs are installed and the cement samples indicate that the cement is competent, the rig will proceed to pressure test the BOPs, casing and shoe. Pressure test casing and each component of the BOPs as per Section 6.2. After successfully pressure testing the BOPs and casing, drill out cement and 0.5m of new formation and conduct a PIT, with the hole full of fresh water, using a bottom hole pressure equivalent to 18 kPa/m.

2. Drilling Method

   Drill a 375mm hole with fresh water, 5m ± into the F Shale formation, to an approximate depth of 384m. Notify Geologist 12 hours in advance of reaching intermediate casing point, so that they can be on site to determine the proper casing setting depth. When casing setting depth has been determined, circulate the hole clean and run a deviation survey. Perform a flow check prior to tripping and strap out of the hole. Fast tripping of the drill string is to be avoided in order to eliminate high annular velocities, pressure surges and swabbing (maximum rate of 27 metres per minute). Keeping hole full of fluid, trip out of hole and laydown bottom hole assembly and stand back drill collars and drill pipe,

   The potential for loss circulation exists while drilling through the Detroit River formations (Lucas and Amherstburg formations). If loss circulation is encountered use the loss circulation contingency program located in Section 4.7. Note all lost circulation intervals and monitor and record fluid loss volumes. If pit fluid must be hauled to disposal, keep solid content to a minimum to reduce costs.

Ensure that drill cutting samples are taken every 3 metres and placed in the sample bags provided by the Ministry of Natural Resources and Forestry. Surveys are to be taken every 100 metres. Deviation shall not exceed 1 degree per 100 metres and shall not exceed 2 degrees at any point. Record on daily tower sheets any influx of fluids (water and/or hydrocarbons), loss circulation (rate and depth) and/or any unusual hole conditions.

3. Casing Installation

Ensure that the threads are protected while hoisting casing to the floor. Drift all casing prior to running the casing in the well and apply proper API make-up torque to each connection.

Depending upon hole conditions encountered, the 298mm casing will be run in the following manner:

- Guide shoe
- 298mm joint of casing
- 298mm Float Insert or Float Collar
- Tack weld guide shoe, float collar and bottom 2 joints and use API modified pipe dope on all connections
- Centralizers will be installed one metre above the guide shoe, over the bottom of the first 2 collars and every 5 joints to surface
- 298mm casing to surface

4. Cementing Procedures

Move in and rig up Cementers. Ensure pressure recorder is rigged in and serviceable. Pressure charts will be attached to the job ticket. Conduct a pre-job safety meeting to confirm volumes and procedures. Establish circulation using pump truck. The casing and the hole will be circulated with fresh water for 15 minutes to clean the borehole and to fill the casing and hole prior to cementing. Pressure test surface equipment to 14MPa for 10 minutes. Preflush and mix water must be obtained from a clean source and the water trucks must be uncontaminated. Pump preflush of $3.0m^3$ of fresh water, with the addition of loss circulation material if necessary. Ensure that a minimum of 4 cement samples is taken and represent the cement at the beginning, middle and end of the cement job. Mix and pump sufficient 0-1-8% Class 'G' plus 1 to 3% $CaCl_2$ (50% excess) followed by 0-1-0% Class 'G' cement plus 1 to 3% $CaCl_2$ (30% excess) to cement casing to surface. Depending upon the severity of the loss circulation zones, thixotropic cement with additional loss circulation materials may be used to cover the loss zone. If there are no cement returns to surface, a feed rate will be established and the annulus will be grouted to surface. Drop wiper plug and displace cement and bump plug to 3.5 Mpa over final pumping pressure – do not exceed 60% of internal yield pressure of casing. Once plug is bumped and it is determined that the float is holding, bleed casing pressure back to final pumping pressure, close casing valves and bleed off surface line pressure and wash out BOPs. Wait on cement a minimum of 12 hours before slacking off casing. Remove 406mm x 425.5mm casing bowl and install the 298mm x 346.1mm casing bowl on the 298mm casing.

Section 4.5 - Production Hole & Production Casing

1. Pressure Testing

   Check cement samples for hardness – if cement samples are set to the satisfaction of the Wellsite Supervisor, proceed with installation of the BOPS. Install Class B (Rotary) BOPs as per MNRF requirements on 298mm casing bowl. Stump test BOPs prior to installation. After BOPs are installed and the cement samples indicate that the cement is competent, the rig will proceed to pressure test the BOPs, casing and shoe. Pressure test casing and each component of the BOPs as per Section 6.2. After successfully pressure testing the BOPs and casing, drill out cement and 0.5m of new formation and conduct a PIT, with the hole full of fresh water, using a bottom hole pressure equivalent to 18 kPa/m.

2. Drilling Method

   Drill a 270mm conventional hole to the kick-off point of 410m. Brine will be used to drill this portion of the well, to prevent the dissolution of the salt layers. Ensure that drill cutting samples are taken every 3 metres and placed in the sample bags provided by the Ministry of Natural Resources and Forestry. Record on daily tower sheets any influx of fluids (water and/or hydrocarbons), loss circulation (rate and depth) and any unusual hole conditions.

   At the kick-off point, circulate the hole clean, run a deviation survey and strap out of the hole. Pick up directional equipment and run in the hole with the directional bottom hole assembly. Prior to penetrating the A-2 Carbonate, the Wellsite Geologist and Wellsite Supervisor must be on-site and a BOP drill shall be completed to familiarize all on-site personnel with the proper procedures.

   Drill a 270mm directional hole a minimum of 2 metres into the A-2 Anhydrite formation, at an approximate depth of 560mTVD / 570.01mMD at an angle of 40^0. The final casing point will be determined by the Wellsite Geologist. At casing total depth, circulate the hole clean and perform a flow check prior to tripping. Fast tripping of the drill string is to be avoided in order to eliminate high annular velocities, pressure surges and swabbing (maximum rate of 27 metres per minute). Keeping hole full of brine, trip out of hole – laydown bottom hole assembly, drill pipe and drill collars.

3. Casing Installation

   Ensure that the threads are protected while hoisting casing to the floor. Drift all casing prior to running the casing in the well and apply proper API make-up torque to each connection.

   Depending upon hole conditions encountered, the 219mm casing will be run in the following manner:

   - Guide shoe

- 219mm joint of casing
- Float Insert or Float Collar
- Bottom 150 metres of 219mm casing shall have solid stand-off centralizers run on every other joint – above and below the collar
- Tack weld guide shoe, float collar and bottom 4 joints and use API modified pipe dope on all connections
- Centralizers will be installed on remaining casing – on every 5th joint to surface
- 219mm casing to surface

4. Cementing Procedures

Move in and rig up Cementers. Ensure pressure recorder is rigged in and serviceable. Pressure charts will be attached to the job ticket. Conduct a pre-job safety meeting to confirm volumes and procedures.

Establish circulation using pump truck. The casing and the hole will be circulated with brine for 15 minutes to clean the borehole and to fill the casing and hole prior to cementing. Pressure test surface equipment to 14 MPa for 10 minutes. Preflush and mix water must be obtained from a clean source and the water trucks must be uncontaminated. Pump preflush of 3.0m^3 of clean brine, with the addition of loss circulation material if necessary. Ensure that a minimum of 4 cement samples is taken and represent the cement at the beginning, middle and end of the cement job. Mix and pump sufficient Class 'G' 0-1-0% cement plus 10% NaCl, to cement the 219mm casing to surface plus 50% excess over open hole and 30% excess in cased hole. Drop wiper plug and displace cement with fresh water and bump plug to 3500 kPa over final pumping pressure – do not exceed 60% of internal yield pressure of casing. Once plug is bumped and it is determined that the float is holding, bleed casing pressure back to final pumping pressure, close casing valves and bleed off surface line pressure. Wash out BOPs and split BOP stack at 346mm flange, install 219mm slips and set slips in casing bowl. Wait on cement a minimum of 48 hours and cut casing and remove BOPs. Cut and bevel 219mm casing and install primary and secondary seals. Install 346mm x 228.6mm spool piece and test wellhead seals to 14 Mpa for 10 minutes.

Section 4.6 - Main Hole

1. Installation of the BOPs

Check cement samples for hardness – if cement samples are set to the satisfaction of the Wellsite Supervisor, proceed with installation of the BOPS. Install Class B (Rotary) BOPs as per MNRF requirements on 228.6mm flange. After BOPs are installed and the cement samples indicate that the cement is competent, move in and rig up the Wireline Company and run a cement bond log (both pressure (7000kPa) and non-pressure pass) over the 219mm casing. After the cement bond log is completed and the cement job is deemed successful, the rig will proceed to pressure test the BOPs, casing and shoe. Pressure test casing and each component of the BOPs as per Section 6.2. After

successfully pressure testing the BOPs and casing, drill out cement and 0.5m of new formation and conduct a PIT, with the hole full of fresh water, using a bottom hole pressure equivalent to 18 kPa/m.

2. Logging

   Move in and rig up Wireline Company. With hole full of fresh water, run a casing inspection log over the 219mm casing. Rig out Wireline Company and release.

3. Drilling Method

   Drill a 200mm hole with fresh water system – ensure that the frac tank is full of fresh water and water trucks have been put on alert. Drill from 560mTVD (570.1mMD) at 40^0 to 90^0 at 616mTVD (706.82mMD) and continue drilling to a depth of 890mMD (616mTVD) for a horizontal distance of approximately 183m. After drilling 2 lengths of drill pipe, work the newly drilled hole to ensure that there will not be any issues running in and out of the open hole. A high vis sweep with floc will be added at each connection to assist with hole cleaning.

   Ensure that Wellsite Geologist is on site to monitor cuttings and liaise with Directional Drillers concerning the path of the horizontal well. Drill to TD indicated by Wellsite Geologist. At TD pump a final sweep and if possible, circulate hole until clean returns are observed at surface.

   The potential for loss circulation exists while drilling through the Guelph formation. If loss circulation is encountered, use the loss circulation contingency program located in Section 4.7. Note all lost circulation intervals and monitor and record fluid loss volumes.

   Pull out of hole with drilling assembly and laydown drill pipe, drill collars and bottom hole assembly. Move in and rig up Wireline Company complete with full lubricators. Run in hole with gauge ring to ensure clear hole to bridge plug setting depth. Run in hole with wireline set, retrievable 219mm bridge plug and place as deep as possible in the 219mm casing and pull out of hole with the setting tool. Fill hole with fresh water and pressure test plug to 7000 kPa for 10 minutes. If the plug does not hold pressure, be prepared to set another 219mm retrievable bridge plug. Release Wireline Company and release Directional Drilling Company.

   Nipple down BOPs and install 315mm x 900 ANSI full port ball (master) valve. Close master valve and install 315mm blind flange. Install pressure recorder, ensure that the well is full of fresh water and pressure test casing, wellhead and master valve to a surface pressure of 11,000 kPa for a minimum of 4 hours. Call Enbridge Office with the results.

4. Rig down rotary rig and move off of location.

5. Restore wellsite to Enbridge's specifications.

Drilling Program

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Enbridge Gas Distribution Inc.

Section 4.7 - Loss Circulation Procedure

1. Before drilling out the casing shoe:
   a. Identify sources and location of fresh water and/or brine, loss circulation materials and weight materials
   b. Ensure BOPs and manifold are properly installed
   c. Ensure auxiliary tanks are connected to the pumping system and a standby mud pump is hooked up for annular injection in case of severe loss circulation (so that fluid can be pumped down both the drill pipe and annulus simultaneously)
   d. Pressure test BOPs prior to drill out

2. After drilling out shoe:
   a. Alert water suppliers and haulers
   b. Ensure adequate amounts of fresh water and/or brine are readily available prior to penetrating the Detroit River and Guelph formations
   c. Mechanically test BOPs and perform BOP drill prior to penetrating the Detroit River and Guelph formations.

3. Drilling Blind – Detroit River formations:
   a. In an attempt to maintain or re-establish circulation, pump fluid down both the annulus and the drill pipe simultaneously
   b. Should severe loss circulation occur while drilling, the thief zone may be plugged with cement and/or loss circulation material at Enbridge's discretion.

4. Drilling Blind – Guelph
   a. In an attempt to maintain or re-establish circulation, pump fluid down both the annulus and the drill pipe simultaneously
   b. Make wiper trips or reciprocate the drill pipe to maintain a clean hole every joint or two as directed by the Wellsite Supervisor
   c. Sweep the hole every 1 to 3 joints
   d. Use a. and b. in combination
   e. At TD conduct a final sweep and then trip out BHA

SECTION 5.0 - REPORTING PROCEDURES

Section 5.1 - Tower Sheets

Shall be completed daily and shall include:

1. Bit size, fluid type and weight, weight on bit, deviation surveys, depth at the beginning of the shift and end of each shift.

2. Casing size, grade, weight, and number of joints, centralizers, cement baskets, total length and setting depth.

3. Cementing information – Service Company, cement type, amount, slurry density, additives, annular fluid returns, volume of displacement fluid and plug down time.

4. Water, gas or oil – type, depth encountered depth of sample collected and the static level and/or rate of flow.

5. Pressure tests – individually, surface pressures, fluid density used in the tests, bleed-off rate and duration of test.

6. Logging Details – type and interval.

7. Abandonment details – intervals, amount and type of cement, top of plug and time felt.

8. Rig release – date and time.

Section 5.2 – Worker Injury

Immediately provide first aid to the injured party and ensure that all personnel are removed from harm's way. Secure the area and ensure that the site is preserved in case an investigation is required.

Every work related accident or injury shall be reported immediately to the Wellsite Supervisor. The Supervisor shall immediately contact the Enbridge Gas Distribution Inc. Office, specifically the Senior Project Geologist, followed by the Reservoir Field Supervisor. The verbal report shall be followed with a written report, including but not limited to, the Contractor's Accident/Incident Investigation form. The affected Contractor is responsible to contact the proper authorities concerning the accident.

SECTION 6.0 - SAFETY AND PROCEDURES

Section 6.1 - General Safety

1. All works at the Wellsite shall be in compliance with the Occupational Health and Safety Act and the Oil, Gas & Salt Resources Act and all associated legislation. In addition, all work at the Wellsite shall be done in compliance with good oil field practices. All verbal notifications given to and approvals received from government agencies shall be recorded on the tower sheets.

2. Safety meetings are to be held with each crew, at the start of the well and periodically while drilling – meetings shall also be held prior to cementing and upon arrival of the logging company, prior to commencement of directional drilling operations and prior to penetrating the Detroit River formations and the A-2 Carbonate formation.

3. The Wellsite Supervisor shall ensure that the operations are in compliance with all applicable government regulations and shall complete daily walk around rig inspections.

Section 6.2 – Well Control

All blowout prevention systems are to be in strict compliance with MNR regulations. The function and pressure testing guidelines required by the regulatory bodies (such as daily function testing of the pipe rams) will be strictly adhered to.

1. All pressure tests of blowout prevention equipment will be conducted with fresh water and will be conducted in 2 stages – low and high pressure. It is essential that the low pressure test be done first, to prevent the high pressure test from healing leaks that would have been noted at low pressures.

2. The following pressure test will be conducted with fresh water prior to drilling out each casing string and the results recorded on the tower sheets and daily reports:

    a. The blind rams, kill lines and choke manifold will be tested individually for 10 minutes each to:
        i. Intermediate casing 2000 kPa low & 9000 kPa high
        ii. Production casing 2000 kPa low and 10000 kPa high

    b. Run in hole with BHA, drill pipe and drill collars and pressure test the casing string, pipe rams, kelly cock, stand pipe, swivel, safety valves, etc. will be tested individually for 10 minutes each to:
        i. Surface casing 1400 kPa low and 3500 kPa high (using AP)
        ii. Intermediate casing 2000kPa low & 9000 kPa high
        iii. Production casing 2000 kPa low and 10000 kPa high

c. The annular preventer will be tested for 10 minutes to
   i. Surface casing 1400 kPa low and 3500 kPa high
   ii. Intermediate casing 2000 kPa low & 9000 kPa high
   iii. Production casing 2000 kPa low and 10000 kPa high

3. Upon drilling out the casing, drill 0.5m to 1.0m of new hole and test the formation, with the hole full of fluid, to a minimum bottom hole pressure of 18 kPa per metre.

4. After one day of drilling below the casing shoe, check the entire blowout prevention system and tighten all bolts.

5. Crews should be kept alert and familiar with the blowout prevention equipment. At least one member of the crew who has been trained in blowout prevention and well control procedures must be on the floor at all times.

6. Conduct blowout prevention drills prior to drilling out casing and once per week thereafter. Ensure that the drills are recorded in the tour book.

7. The blowout preventers are to be function tested once per tour. Ensure that the function test is recorded on the tower sheets.