VEOLIA
ENVIRONMENTAL SERVICES

SPECIAL SERVICES

September 27, 2006

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Dear Dan,

Attached you will find the job overview report. The report will contain detailed information from the Enbridge Energy, Straits of Mackinac pipeline inspection and repair project. Included with the report are: Daily Survey logs (inspection barge and diving barge), ROV inspection logs, and construction logs.

ROV inspection services started June 12, 2006 – June 24, 2006 for Enbridge Energy's, Straits of Mackinac east and west legs, pipelines. Diving operations started June 14, 2006 – June 24, 2006 for Enbridge Energy. ROV inspections were conducted following each of the pipelines looking for pipeline condition and spans. When finding a documented over length span, diving operations would proceed to place anchor support at specific locations.

Thank you for allowing Onyx Special Services, Inc. to perform survey and diving services. If there is any question, please don't hesitate and call.

Sincerely,

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Project Overview

Veolia ES Special Services, Inc was retained by Enbridge Energy Inc. to inspect and repair 1 each, east and west, 24 inch diameter steel pipelines crossing the Straits of Mackinac. These lines run parallel to each other and are separated by approximately 1000 feet along the 4.6-mile length of the crossing, and are situated in water depths ranging from 0 to 250ffw. Both lines are buried out to water depths of approximately 50 feet, and then lie uncovered on the bottom.

The focus of this project is to inspect, identify existing conditions and repair areas which could potentially compromise the safety of the lines. Examples of these conditions could include exposed or unsupported areas of pipe, severely degraded or missing coating, or damage caused by impact. In past surveys, it was determined that the exposed pipelines are now unsupported in many areas along the crossing.

Remotely operated vehicle inspection and diving services mobilized to Mackinaw City June 12, 2006 and were de-mobilized to Cheboygan June 25, 2006. The inspection services were conducted with a remote operated vehicle (ROV). Acoustical tracking, along with video records indicated that numerous spans exceeded Enbridge Energy's design tolerances of the line. As such, Veolia ES was mobilized to place designed supports within these problem spans. This report includes data on this repair operation as well as the initial inspection.



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Operations

Veolia ES Special Services, Inc., Durocher Marine and Alternative Positioning Solutions, a third party survey company, completed the inspection barge/tug mobilization at Durocher Marines, Cheboygan yard, and mobilized to Mackinaw City on June 6, 2006. From the Mackinaw City dock, the inspection barge would mobilize to the work site where Veolia ES, Durocher Marine and Alternative Positioning Solutions went through a series of equipment calibration procedures. Alternative Positioning Solutions calibration and survey reports are included as a separate report.

Enbridge Energy's pipeline inspections started June 12, 2006 on the East pipeline leg. Diving operations barge equipment mobilization at Durocher Marines yard on June 12, 2006. On June 13, 2006, mobilization of the primary tug and diving operations barge to Mackinaw City dock, where the vessels would dock for the entire job. From Mackinaw City, the inspection barge, diving operations barge, equipment and personnel would mobilize to repair affected areas along Enbridge Energy's east and west crude oil pipelines crossing the Straits of Mackinac. Veolia ES Special Services, Inc. would provide the navigation, positioning, remotely operated vehicles (ROV) support and diving operations. While Durocher Marine would provide the tug boats, inspection and diving barges, anchors and crane.

In planning the repair operations of the pipelines, the east pipeline would first be filled with NGL and then be shutdown for the entire survey and dive repair work. As the ROV survey proceeded, affected areas of concern were determined by Enbridge Energy management viewing documentation from the remotely operated vehicle (ROV) inspection videos and reports. The ROV inspection was working a day or two ahead of the diving operations along the one designated pipeline. Given the length of the spans, spans that were over 140' in length, which require the pipe line to be shut down, and spans over 100' in length, would be repaired. The west pipeline would then follow the same procedure as the east.

Diving operations for the east line repairs began on June 14, 2006 and went through June 19, 2006. Spans on the east pipeline were:

- East Line – Spans that would require repairs: E-04, E-02, E-61A, E-55/56, E-32A, E-74B and E-46, not in any specific order. (Also, see span table.)

Diving operations for the west line repairs began on June 20, 2006 and went through June 24, 2005. Spans on the west pipeline were:

- West Line - Spans that would require repairs: W-02, W-18A, W-51, W-34 and W-59A, not in any specific order. (Also, see span table.)

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Summary of Methods / Equipment Limitations

Remote Operated Vehicles – Seaeye "Tiger"



The "Tiger", Remotely Operated Vehicle (ROV) system is extremely versatile and can be employed to carry out a variety of tasks including surveying, searching and inspections. A pilot on the surface controls the vehicle remotely by sending commands to the vehicle via an umbilical and tether. The vehicle can be moved in any direction or by using the autopilot facility remain accurately on course and depth to provide a stable platform. The pilot can also control the vehicle's video system, lighting and any other equipment fitted to the unit.



For this inspection, the vehicle is fitted with altimeter and sector scanning sonar, which enabled the operator to see objects out of the visual range of the video camera. Navigation was provided by Alternative Positioning Solutions, Sonardyne tracking system in concert with RTK tracking and a stand-alone computer with Winfrog software. In use, the ROV is fitted with a Sonardyne acoustic transponder, which sends out a sound signal to be picked up by a hydrophone mounted on the side of the surface support barge. The offset of the vehicle (calculated by Winfrog) is fed to the navigation computer that plots a corresponding XY position based on Real Time Kinematics (RTK) information. Video from the on-board camera is recorded in a computerized and VHS format, with the operator entering position information to the on-screen display. Once data has been gathered as acoustic records, video documentation is encouraged in order to provide definitive ground truthing of the indications on the sonar record. Alternative Positioning Solutions calibration and survey reports are included as a separate report



In operation, the tug and barge is positioned over the pipeline using a live boat operation for the survey. With evidence of a strong fix RTK lock on the RTK as well as a solid return from the vehicle tracking system, the vehicle is launched from the surface to begin its descent to the bottom. Once on bottom, the operator utilizes the navigation system to guide the vehicle to the pipeline. With the pilot free to fly the vehicle, the survey supervisor takes notes with further direction given by the client representative on site. "Parking" the vehicle at the desired location attains accurate location of anomalies, while the Sonardyne tracking and RTK stabilize and update the position. This position is noted in the inspection log for future reference. After taking a fix on the span location, the ROV, tug and barge would proceed north on the pipeline to the next span. With the survey running a live boat operation, Veolia ES was able to survey in a more efficient mannor.

The main limitations to this equipment are related to water clarity (visibility), water current, and surface weather and wave conditions. Obviously, in highly turbid water conditions, an acceptable video record is impossible to generate. Fortunately water clarity for this project was exceptional, allowing for a very clear video record. Higher water velocities (current) can pose difficulties in keeping the vehicle on station, or even getting it to the target. Currents of 1 to 2 knots were encountered during this project, which did pose challenges.

The most prevalent limitation of this equipment is imposed by weather conditions. High winds/waves make for difficulties in launch and recovery of the remotely operated vehicle. Throughout the survey period we encountered periodic weather delays and equipment set-backs.

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Equipment Overview (Inspection Operations)

For the inspection, Veolia ES mobilized the Remote Operated Vehicle (ROV), a vessel and additional equipment from Cheboygan, MI to Mackinaw City, MI. This package consisted of the following:

- Alternative Positioning Solutions, LLC (APS)
  - See APS report documentation
- 140' x 60' Barge
- Tug boat
- ROV LARS – Launch and Recovery System
- Seaeye "Tiger" - Remotely Operated Vehicle with all associated equipment
  - Typhoon Camera
  - Tilt Unit
  - Lighting
  - Compass
  - Depth Sensor
- Comprehensive field spares kit
- Sector Scanning Sonar / Altimeter
- Sonardyne tracking, short base line acoustic tracking system
- TSS Standard Gyro
- Motion Reference Unit (MRU)
- Trimble - Real Time Kinematics (RTK) (centimeter accuracy)
- Computer navigation system
- Computerized and VHS, Video recording equipment
- Offshore safety package

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Diving Operation and Equipment

The project superintendent is in contact with immediate personnel on treatment gas stores, equipment and equipment start-up. In turn, the tug boat captain is in contact with the USCG for shipping traffic concerns, weather reports and will report this information to the project superintendent. At this point, the project superintendent and client representative will make the determination of project location and a decision to sail.



Span coordinates identified from the ROV survey used to plot anchor and mooring locations. Barge is positioned over anchor locations identified by the Hypack navigation system. The Hypack navigation program, located on the dive barge, brings in information provided from the Vector Sensor, Motion Reference Unit (MRU) and Link-quest tracking, which is then relayed to a monitor on the tug for the tug captain to follow. The anchors are then dropped approximately 750' from the pipeline and 1000' apart. Once both anchors are in position (2 anchor spread off the stern of the barge) the barge is towed into position and held in place with a constant speed and heading from the tugboat.



The Seaeye "Falcon" ROV is launched so that a specific repair procedure and location can be selected. Locations were selected based on their proximity to the center of the span, type of bottom encountered (smooth or irregular, hardness) and span height.

The dive bell is then lowered to the work site, guided by the ROV. Adjustments are then made for barge positioning.

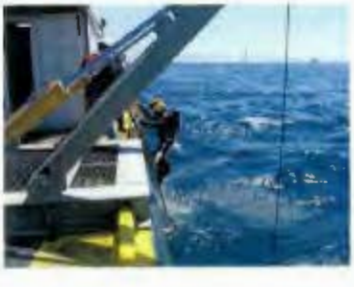


When positioning of the barge is finished, guided by the remotely operated vehicle, the hydraulic drilling tool is then lowered to the work area and is held by the crane approximately 25' away from the pipeline.

The screw anchor and saddle support, which is a prefabricated design, is designed to drill along both sides of the pipeline. Extensions can be added, for adjustment with sub-bottom material or span height. When drilling into the sub-bottom, a specified hydraulic pressure must be met. At that time, the upper and lower saddle supports are installed. Placing the support over and under the pipeline and then all-thread bolts bring all the support saddle together.



Dive operation begins and bottom time starts when the diver leaves the surface. Once on bottom, the diver will bring the drilling tool over the pipeline and lowers the drilling tool into place. Once in place, drilling will proceed. Diver will monitor drilling process until complete. When drilling is complete, the 3-pin assembly is disconnected and the hydraulic tool is lifted off the screw assembly and safely placed off the East Side of the pipeline to prevent dragging back into the pipe. Diver will then assemble the anchor and saddle into place. A repair (as detailed in above) is completed.



The final inspection and position of the pipeline repair is recorded from the ROV. Diver was brought to the surface and decompressed.

This process usually entailed multiple dives to complete.

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Diving Barge Remotely Operated Vehicle

The Seaeye Falcon is mainly used for diver observation from the barge diving operations and is equipped with a remote pan and tilt video camera with auto focus controls, as well as two 75 watt lights. The ROV is a free-swimming vehicle tethered to a surface support vessel and controlled by personnel on-board. For this operation, the vehicle was also fitted with sector scanning sonar, which enabled the operator to see objects out of the visual range of the video camera. Navigation was provided by the Link Quest tracking system in concert with a CSI Wireless Vector Sensor GPS tracking and a stand-alone computer with Coastal Oceanographic's Hypack software. In use, the ROV is fitted with an acoustic transponder, which sends out a sound signal to be picked up by a hydrophone mounted on the side of the surface support barge. The offset of the vehicle (calculated by Link Quest) is fed to the navigation computer that plots a corresponding XY position based on GPS information. Video from the on-board camera is recorded in a computerized and VHS format, with the operator entering position information to the on-screen display. Once data has been gathered as acoustic records, video documentation is encouraged in order to provide definitive ground truthing of the indications on the sonar record.



The main limitations to this equipment are related to water clarity (visibility), water current, and surface weather and wave conditions. Obviously, in highly turbid water conditions, an acceptable video record is impossible to generate. Fortunately water clarity for this project was exceptional, allowing for a very clear video record. Higher water velocities (current) can pose difficulties in keeping the vehicle on station, or even getting it to the target. Currents of 1 to 2 knots were encountered during this project, which did pose challenges.

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Equipment Overview (Diving Operations)

The following equipment was mobilized to Durocher Marines yard in Cheboygan, MI for setup on barges.

- 1 - Mixed gas control Trailer
- 2 – 54" deck decompression chambers
- 4 – Hot water machines
- 2 – Quincy 5120 divers air compressors
- 150kw Multi-quip generator
- Class 2 diving bell and Man Rated Handling system
- 2 – Underwater video and lighting systems
- Deep Ocean Engineering "Phantom HD2" - Remotely Operated Vehicle with all equipment and spares (Observation Class)
- Imagenex sector scan sonar
- Link Quest tracking Plus tracking system with 4 beacons
- 2 - Hypack navigation computers
- Vector Sensor GPS System
- 3 – 600' Divers umbilical
- Mixed gas stores
    - 100% Oxygen (Decompression gas)
    - 8416 HeO2 (Bottom mix)
    - 8614 HeO2 (Bottom mix, emergency gas)
    - 6040 HeO2 (Decompression gas)
    - 6040 Nitrox (Treatment gas)
- Miscellaneous diving and construction equipment (Hoses, extension cords, torches, tools, etc.)
- Helical Screw Anchors and Supports

    - Due to space and weather considerations, the above equipment was setup in storage containers stacked and sea fastened to the barge. The Hypack navigation equipment was centralized in the dive container, tracking the barge heading and position, ROV position, bell position and anchor drilling tool position. With the primary navigation being controlled from the dive container, a monitor was installed in the tug boat for navigation.

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Findings

The Remote Operating Vehicle (ROV) survey inspection took place June 04, 2005 – June 22, 2005 on the east and west pipelines. The diving operations followed 1 to 2 days behind the ROV inspections. Data obtained by the ROV survey inspection closely followed past findings and data obtained in the 2004 survey. During this time, Enbridge Energy made the determination that the east pipeline would be surveyed and repaired. The pipeline would have NGL placed in the line and then be locked out of service. When the inspection and repair work was concluded, the pipeline would then be placed back into service. The same procedure would be done to the west pipeline. Both the east and west pipelines show intermittent suspension over their entire length. Previous grout bag repairs were noted on the east and west lines where the pipeline no longer rested on the bag. The exposed portion of the pipeline is heavily covered in zebra mussel growth, making a detailed analysis of the coating and actual pipe condition impossible. Additionally, areas of debris encroachment as well as cables lying over the pipeline were noted.

The attached span logs identifies repaired spans, location of all spans, spider locations and current meter deployments, with northing / easting coordinates to each. Also included with this report is a CD with a very detailed informational spreadsheet of each span. Some of the information included in this spreadsheet: 2005 / 2004 span numbers, length, height, video tape number, DVD copy number, northing, easting, longitude, latitude and description.



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Enbridge Energy Span Data

Date: September 21, 2006
Customer: Enbridge Energy
Onyx Project: 490159E.06.010
Project: Straits of Mackinaw

East Pipeline

Span	Line	South Northing	South Easting	North Northing	North Easting	South Depth	North Depth	Span Length
E75	East	19582591.50	904767.10	19582611.54	904837.50	63.26	63.26	73.20'
E74A	East	19582631.37	904913.39	19582650.46	904977.54	64.37	65.62	66.93'
E74B	East	19582650.46	904977.54	19582679.90	905086.80	65.62	64.82	113.16'
E71	East	19582712.35	905200.88	19582736.65	905283.56	66.14	67.94	86.18'
E72	East	19582736.65	905283.56	19582745.03	905318.15	67.94	67.41	35.59'
E77	East	19582747.63	905329.04	19582761.05	905370.70	67.41	67.79	43.77'
E26	East	19582814.28	905555.19	19582826.17	905602.10	72.21	73.89	48.39'
E25	East	19582837.58	905647.25	19582860.07	905728.29	75.00	74.79	84.10'
E24	East	19582888.60	905834.56	19582904.17	905877.52	75.76	76.37	45.69'
E23A	East	19582927.67	905971.50	19582951.40	906054.56	77.55	79.48	86.38'
E23B	East	19582951.40	906054.56	19582975.10	906141.52	79.48	78.32	90.13'
E27	East	19582992.81	906214.98	19583009.66	906278.88	76.44	77.08	66.08'
E28	East	19583021.96	906329.08	19583043.75	906400.14	77.29	76.87	74.33'
E28B	East	19583043.75	906400.14	19583057.33	906462.53	76.87	76.10	63.85'
E29	East	19583061.38	906481.15	19583076.42	906541.83	75.50	73.72	62.52'
E30	East	19583080.89	906554.87	19583099.83	906633.71	73.17	70.75	81.08'
E38	East	19583119.83	906712.32	19583128.70	906747.98	68.13	67.69	36.75'
E37	East	19583170.81	906901.39	19583183.24	906953.71	68.44	68.49	53.78'
E10	East	19584726.02	912610.23	19584738.16	912652.13	223.32	222.17	43.62'
E11	East	19584739.70	912658.16	19584757.76	912725.06	222.11	220.50	69.29'
E12	East	19584768.55	912767.25	19584791.07	912845.08	220.09	220.04	81.02'
E13A	East	19584798.53	912868.75	19584804.54	912902.78	220.34	220.84	34.56'
E13B	East	19584804.54	912902.70	19584835.50	913010.17	220.84	218.44	111.84'
E13C	East	19584835.50	913010.17	19584862.04	913105.35	218.44	213.01	98.81'
E03	East	19584895.05	913238.33	19584922.64	913323.49	210.35	209.46	89.52'
E76	East	19584922.64	913323.49	19584934.68	913380.89	209.46	209.60	58.65'
E02	East	19584994.63	913595.40	19585024.53	913705.34	210.44	209.67	113.93'
E01A	East	19585029.31	913718.46	19585052.01	913803.75	209.37	205.47	88.26'
E01B_A	East	19585052.01	913803.75	19585079.13	913895.93	205.47	195.84	96.09'
E01B_B	East	19585079.13	913895.93	19585096.45	913961.24	195.84	187.51	67.57'
E04	East	19585112.10	914013.16	19585136.83	914110.70	180.35	167.62	100.63'
E05A	East	19585150.58	914154.85	19585170.98	914229.12	161.34	150.25	77.02'
E05B	East	19585170.98	914229.12	19585185.75	914284.08	150.25	141.68	56.91'
E06	East	19585246.14	914501.15	19585265.39	914563.68	111.93	104.48	65.43'
E07	East	19585272.60	914591.55	19585289.65	914658.77	100.65	92.08	69.35'
E78	East	19585409.43	915084.91			60.68		
E65A	East	19585416.77	915100.93	19585429.31	915158.45	60.79	60.40	58.87'
E65B	East	19585429.31	915158.45	19585444.96	915220.07	60.40	59.34	63.58'
No. Mud Line	East			19585494.39	915401.18		59.08	
E61A	East	19584300.71	911047.48	19584331.00	911163.39	133.89	139.81	119.80'
E61B	East	19584331.00	911163.39	19584361.56	911274.13	139.81	139.37	114.88'
E61C	East	19584361.56	911274.13	19584383.87	911353.77	139.37	133.89	82.71'
E62	East	19584395.93	911394.22	19584403.27	911432.87	130.72	128.74	39.34'
E63	East	19584405.45	911438.08	19584410.86	911459.05	128.01	127.54	21.66'
E64	East	19584416.49	911480.07	19584428.42	911526.81	127.16	126.92	48.24'
E22	East	19584440.50	911564.91	19584459.74	911638.72	125.38	123.11	76.28'

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E21	East	19584471.54	911672.07	19584483.80	911722.17	122.75	124.02	51.58'
E20	East	19584492.36	911752.73	19584500.74	911775.97	125.73	127.46	24.70'
E19A	East	19584504.26	911792.05	19584523.71	911867.41	128.23	134.23	77.83'
E19B	East	19584523.71	911867.41	19584545.22	911945.91	134.23	139.22	81.39'
E18B	East	19584553.64	911975.39	19584559.96	911999.22	141.60	144.68	24.65'
E18A	East	19584565.32	912017.52	19584570.92	912037.55	146.88	149.54	20.80'
E17	East	19584579.31	912069.71	19584588.15	912099.34	154.44	158.64	30.92'
E16	East	19584606.78	912165.49	19584617.89	912201.67	169.69	176.89	37.85'
E15A	East	19584619.57	912208.47	19584625.78	912235.66	178.29	184.47	27.89'
E15B	East	19584625.78	912235.66	19584639.52	912280.12	184.47	194.10	46.53'
E08A	East	19584639.73	912284.56	19584654.21	912339.07	195.02	205.54	56.40'
E08B	East	19584654.21	912339.07	19584672.68	912409.76	205.54	215.13	73.06'
E08C	East	19584672.68	912409.76	19584698.99	912503.50	215.13	221.79	97.36'
E09	East	19584698.99	912503.50	19584707.06	912542.90	221.79	223.43	40.22'
E36	East	19583186.48	906966.70	19583198.28	907007.48	68.28	68.78	42.45'
E35	East	19583208.40	907049.66	19583228.49	907113.71	69.68	71.04	67.13'
E34A	East	19583230.38	907133.91	19583246.87	907192.97	71.49	72.81	61.32'
E34B	East	19583246.87	907192.97	19583265.81	907264.58	72.81	74.15	74.07'
E33	East	19583294.48	907364.40	19583305.05	907408.11	78.07	80.73	44.97'
E32A	East	19583309.69	907424.55	19583337.41	907524.60	82.10	88.14	103.82'
E32B	East	19583337.41	907524.60	19583360.30	907605.95	88.14	90.06	84.51'
E31	East	19583364.97	907621.95	19583375.18	907663.02	90.23	91.10	42.32'
E39	East	19583389.47	907715.87	19583410.39	907790.70	92.43	93.83	77.70'
E40	East	19583501.09	908125.95	19583525.21	908213.12	98.12	99.15	90.45'
E46	East	19583581.11	908420.13	19583597.65	908479.61	99.16	98.76	61.74'
E45	East	19583597.91	908482.34	19583617.30	908551.73	98.59	85.09	72.05'
E44	East	19583655.22	908691.30	19583667.33	908728.90	95.02	95.68	39.50'
E43	East	19583685.80	908795.22	19583699.32	908847.00	96.81	97.39	53.52'
E42	East	19583707.80	908876.62	19583734.22	908969.87	97.28	95.37	96.92'
E41	East	19583766.94	909090.76	19583786.39	909155.42	93.11	92.40	67.52'
E47	East	19583823.67	909297.69	19583841.55	909369.75	93.00	94.77	74.25'
E48A	East	19583847.70	909384.32	19583861.01	909437.69	94.97	96.17	55.00'
E48B	East	19583861.01	909437.69	19583879.94	909502.82	96.17	96.14	67.83'
Span	East	19583963.28	909804.42			100.12		
E70	East	19583982.11	909876.96	19583993.98	909922.32	103.63	105.04	46.89'
E66A	East	19583996.81	909930.80	19584022.73	910023.89	106.02	108.41	96.63'
E66B	East	19584022.73	910023.89	19584042.97	910102.01	108.41	107.56	80.70'
E56	East	19584044.91	910106.16	19584068.68	910189.25	107.94	106.90	86.42'
E55	East	19584076.67	910213.39	19584088.89	910261.94	106.90	109.10	50.06'
E54A	East	19584091.76	910273.82	19584109.15	910337.21	109.74	114.51	65.73'
E54B	East	19584109.15	910337.21	19584117.35	910365.36	114.51	116.28	29.32'
E53A	East	19584118.53	910368.18	19584128.78	910410.23	116.46	118.82	43.28'
E53B	East	19584128.78	910410.23	19584145.80	910470.89	118.82	121.74	63.00'
E52	East	19584147.11	910475.47	19584151.38	910492.45	121.94	122.58	17.51'
E49C	East	19584152.06	910500.66	19584167.13	910551.40	123.21	126.86	52.93'
E49B	East	19584167.13	910551.40	19584190.38	910634.85	126.86	132.48	86.63'
E49A	East	19584190.38	910634.85	19584214.70	910726.85	132.48	135.33	95.16'
E58	East	19584233.85	910800.34	19584248.96	910859.42	135.35	133.42	60.98'
E79	East	19583958.38	909796.49	19583962.63	909808.51	99.63	100.07	12.75'
So. Mud Line	East	19582573.07	904687.09				63.41	

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West Pipeline

Span	Line	South Northing	South Easting	North Northing	North Easting	South Depth	North Depth	Span Length
W59A	West	19583641.05	913401.99	19583672.69	913528.36	213.91	213.19	130.27'
W59B	West	19583671.26	913528.01	19583696.23	913624.57	213.62	205.11	99.74'
W17	West	19582070.03	907550.51	19582079.33	907585.11	95.87	99.10	35.83'
W18A_A	West	19582081.93	907596.83	19582086.65	907611.84	100.71	101.42	15.73'
W18A	West	19582086.65	907611.84	19582111.60	907707.89	101.42	111.95	99.24'
W18B	West	19582111.60	907707.89	19582133.65	907791.87	111.95	116.13	86.83'
W20	West	19582143.77	907826.99	19582154.41	907872.21	116.75	117.32	46.45'
W24	West	16582158.81	907883.33	19582180.79	907966.95	117.76	118.07	86.46'
W23A	West	19582183.30	907980.86	19582199.55	908039.35	117.42	118.53	60.71'
W23B	West	19582199.55	908039.35	19582215.45	908092.54	118.53	119.16	55.52'
W22	West	19582224.82	908125.84	19582233.84	908161.88	119.05	118.87	37.15'
W21	West	19582244.76	908204.67	19582262.26	908267.77	119.09	121.70	65.48'
W25	West	19582288.12	908364.67	19582298.31	908397.06	121.37	121.28	33.96'
W71	West	19583308.53	912163.10	19583331.60	912243.63	213.81	226.13	83.77'
W72A	West	19583331.60	912243.63	19583358.14	912348.27	226.13	234.69	107.95'
W72B	West	19583358.14	912348.27	19583384.33	912443.06	234.69	236.81	98.34'
W72C	West	19583384.33	912443.06	19583399.34	912493.03	236.81	236.04	52.18'
W75	West	19583402.26	912511.15	19583416.97	912563.15	235.40	233.78	54.04'
W56	West	19583435.26	912640.35	19583451.93	912697.65	232.52	229.60	59.68'
W78	West	19583456.63	912719.08	19583461.47	912733.19	228.81	228.76	14.92'
W54A	West	19583492.53	912848.90	19583506.96	912907.29	226.35	225.86	60.15'
W54B	West	19583506.96	912907.29	19583530.68	912989.81	225.86	226.13	85.86'
W57	West	19583546.87	913055.44	19583568.67	913130.38	223.38	218.52	78.05'
So. Mud Line	West	19581136.38	904070.00			62.85		
W01A	West	19581327.80	904796.10	19581344.93	904860.02	71.03	71.29	66.18'
W01B	West	19581344.93	904860.02	19581365.60	904934.39	71.29	70.96	77.19'
W05	West	19581530.51	905562.23	19581550.28	905639.67	70.78	69.63	79.92'
W77	West	19581578.06	905747.03	19581585.64	905770.09	67.26	66.88	24.27'
W04	West	19581606.12	905843.37	19581610.76	905860.50	66.19	66.20	17.75'
W03	West	19581611.59	905869.29	19581619.50	905899.22	66.48	66.60	30.96'
W02A	West	19581624.34	905908.82	19581639.86	905959.15	66.75	67.12	52.67'
W02B	West	19581639.68	905959.28	19581638.47	905972.66	67.12	66.98	13.43'
W06	West	19581641.27	905981.01	19581663.28	906049.36	67.02	66.07	71.81'
W07	West	19581685.53	906135.35	19581691.73	906156.64	66.25	66.63	22.17'
W08	West	19581692.15	906161.33	19581696.09	906177.38	66.68	66.83	16.53'
W09	West	19581707.98	906214.20	19581721.53	906267.08	66.52	66.52	54.59'
W11	West	19581749.69	906373.32	19581764.71	906416.76	67.17	72.58	45.96'
W10	West	19581810.47	906599.71	19581828.35	906659.81	75.67	79.58	62.70'
W12	West	19581861.63	906783.17	19581887.47	906874.66	83.18	82.94	95.07'
W13	West	19581902.30	906938.09	19581922.85	907011.20	83.84	86.55	75.94'
W14	West	19581930.23	907041.02	19581946.27	907100.47	87.64	89.87	61.58'
W16	West	19581951.09	907112.72	19581961.89	907159.65	90.30	91.46	48.16'
W15	West	19582028.38	907401.15	19582039.39	907444.51	92.14	93.53	44.74'
W26	West	19582315.81	908474.69	19582334.61	908543.76	121.51	122.64	71.58'
W27	West	19582357.50	908626.43	19582365.03	908648.66	124.32	124.99	23.47'
W30	West	19582374.50	908688.16	19582391.83	908747.30	125.66	126.88	61.63'
W28A	West	19582430.32	908889.81	19582448.78	908969.71	128.93	130.14	82.00'
W28B	West	19582448.78	908969.71	19582466.44	909024.52	130.14	128.70	57.58'
W28	West	19582468.84	909039.29	19582479.78	909069.38	129.01	128.21	32.02'
W76	West	19582481.67	909082.36	19582488.11	909099.38	128.09	128.07	18.20'
W31A	West	19582507.60	909179.05	19582533.68	909268.58	127.57	129.97	93.25'
W31B	West	19582533.68	909268.58	19582554.34	909347.17	129.97	129.39	81.26'
W34A	West	19582559.81	909372.41	19582564.94	909388.93	129.14	128.90	17.30'
W34B	West	19582564.94	909388.93	19582592.51	909494.65	128.90	125.14	109.26'
W37	West	19582597.33	909505.05	19582622.27	909602.32	124.79	123.07	100.42'
W36A	West	19582628.87	909620.72	19582638.47	909661.80	122.71	122.24	42.19'
W36B	West	19582638.47	909661.80	19582651.25	909708.79	122.24	120.78	48.70'
W35A	West	19582654.12	909710.81	19582661.62	909740.72	120.62	119.38	30.84'
W35B	West	19582661.62	909740.72	19582684.42	909827.91	119.38	115.26	90.12'
W38	West	19582698.88	909886.46	19582708.08	909916.51	115.46	116.55	31.43'

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W39	West	19582707.87	909917.31	19582717.27	909946.94	116.81	117.63	31.09'
W40	West	19582717.27	909946.94	19582730.57	909989.25	117.63	119.06	44.35'
W41A	West	19582771.06	910151.31	19582793.85	910236.09	127.25	138.71	87.79'
W41B	West	19582793.85	910236.09	19582812.65	910300.95	138.71	146.42	67.53'
W43A	West	19582820.13	910330.35	19582836.35	910392.63	149.63	155.79	64.36'
W43B	West	19582836.35	910392.63	19582854.38	910454.01	155.79	159.08	63.97'
W42A	West	19582859.03	910468.76	19582875.39	910540.40	159.61	160.22	73.48'
W42B	West	19582875.39	910540.40	19582893.00	910607.47	160.22	159.34	69.34'
W45	West	19582894.20	910613.64	19582901.00	910638.98	159.42	159.44	26.24'
W46	West	19582914.92	910687.48	19582934.58	910768.48	160.42	163.23	83.35'
W47	West	19582962.26	910867.24	19582979.10	910931.99	165.17	165.62	66.90'
W51A	West	19582983.36	910948.58	19582990.05	910967.57	165.68	166.05	20.13'
W51B	West	19582990.05	910967.57	19583011.24	911044.44	166.05	166.89	79.74'
W50	West	19583018.74	911079.02	19583025.28	911103.83	166.94	167.56	25.66'
W49	West	19583032.51	911130.40	19583045.03	911175.77	168.20	169.01	47.07'
W48A	West	19583047.28	911180.07	19583061.09	911237.72	169.12	169.56	59.28'
W48B	West	19583061.09	911237.72	19583080.67	911307.09	169.56	168.39	72.08'
W52	West	19583083.93	911320.87	19583099.96	911382.41	167.86	165.96	63.59'
W53A	West	19583120.72	911459.38	19583140.68	911532.21	164.84	164.64	75.52'
W53B	West	19583140.68	911532.21	19583150.73	911568.20	164.64	164.81	37.37'
W70	West	19583170.26	911641.84	19583198.45	911746.97	166.80	171.61	108.84'
W69	West	19583202.16	911765.17	19583223.07	911842.92	172.02	176.02	80.51'
W68A	West	19583251.83	911943.83	19583272.39	912024.44	184.62	194.24	83.19'
W69B	West	19583272.39	912024.44	19583283.58	912064.41	194.24	198.76	41.51'
W60A	West	19583775.36	913917.64	19583791.93	913974.98	158.38	152.50	59.69'
W60B	West	19583791.93	913974.98	19583814.79	914057.60	152.50	140.94	85.72'
W61	West	19583831.71	914127.59	19583852.24	914203.89	130.12	118.53	79.01'
W62	West	19583944.03	914548.66	19583956.42	914591.29	85.99	83.33	44.39'
W63A	West	19584029.77	914862.31	19584045.55	914917.35	74.36	73.44	57.26'
W63B	West	19584045.55	914917.35	19584056.80	914946.56	73.44	72.49	48.53'
W65	West	19584105.66	915139.93	19584126.03	915223.73	70.21	70.26	86.24'
W64	West	19584127.28	915227.50	19584150.00	915314.16	70.02	68.89	89.59'
W67	West	19584174.42	915403.22	19584198.62	915500.33	68.68	68.56	100.08'
W66	West	19584247.09	915681.07	19584257.66	915724.44	66.33	65.18	44.64'
No. Mud Line	West			19584284.32	915829.36		63.41	

2006 Anchors

Span	Line	Northing	Easting			South Depth		
E04	East	19585131.29	914091.99			170.87		
E02	East	19585017.77	913681.49			210.60		
E61B	East	19584315.74	911100.43			136.24		
E56	East	19584057.20	910147.37			107.73		
E46	East	19583595.38	908465.74			99.16		
E32A	East	19583313.59	907436.21			83.13		
E74B	East	19582676.69	905072.71			65.26		
W02	West	19581639.68	905959.28			67.12		
W18A	West	19582111.60	907707.89			111.95		
W51	West	19582990.05	910967.57			166.05		
W34	West	19582564.94	909388.93			128.90		
W59A	West	19583671.26	913528.01			213.62		

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Debris

Debris Description	Line	South Northing	South Easting	North Northing	North Easting	South Depth	North Depth	Span Length
Debris	East	19583937.82	909720.89			97.75		
Debris(cable)	West			19581211.21	904355.55		65.24	
Debris(cable)	West	19581273.39	904585.72			67.92		
Debris(cable)	West	19581735.79	906324.15			66.95		
Debris(Large Pile)	West	19584317.07	915899.02			61.02		

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