

Industrial Divers Corporation

2901 SW 3rd Ave, Suite #5
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November 10, 2017

To: Michell Smith, Environmental Manager, Florida DEP
From: Rocco Galletta, Vice President, IDC

Re: Osborne Reef Tire Mitigation SW238-4: Progress Report Task 4 A

Industrial Divers Corporation (IDC) began on Task Order No. SW238-4 part A on September 28, 2017 with up to three five diver teams using Nitrox with surface supplied dive gear and SCUBA diving equipment. From September 28, 2017 to November 9, 2017, five diver teams were deployed with the *Reef Ranger*, *Reef Tender*, and/or *Reef Keeper* Dive Support Vessels (DSV). The combination of one, two, or three DSV's working together, each with a five-diver team, collected a total of 7,500 tires. The *Reef Tender* and *Reef Keeper* teams removed tires from the low density hard bottom reef edge in Priority area 1 along the west edge of the Osborne site, as per instructions from Pat Quinn PhD. Broward County ERM. These two teams used an unmoored vessel technique that uses lift bags to retrieve the tires. *Reef Tender* and *Reef Keeper* teams can also pre-rig up to 900 additional tires to be recovered by the *Reef Ranger* when weather conditions were good enough for diving operations but unfavorable for crane operations due to high wind or swells. IDC has also added a full-time coordinator to manage the higher volume of trailers (up to six per week) generated by the additional boats and crews, and a full-time mechanic and a worker dedicated to filling pressurized cylinders needed for diving. Two of the three vessels have been equipped with twelve commercial lift bags and tire rigging slings for the unmoored lift bagging technique. In addition, IDC purchased thirty 1 ¼" shackles and has made 120 extra tire slings which are dedicated for pre-rigging up to 900 tires for pick up by the *Reef Ranger* crane.

The 7,500 tires were recovered and emptied into eleven 100 cubic yard trailers located at Berth 28F in Port Everglades. All diving was performed using surface supplied Nitrox diving practices with Kirby Morgan diving helmets using hard wired communications or a two-diver team using SCUBA gear and Nitrox breathing gas. All the tires collected by the *Reef Ranger* DSV were lifted in 5 tire clusters with up to 6 clusters at a time totaling 30 tires per lift with the on-board crane. The tire bundles were placed in cargo nets lined with filter fabric which were deployed in the self-bailing hold of the *Reef Ranger*. The *Reef Tender* and *Reef Keeper* teams used an

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innovative “live-boat” method with Nitrox SCUBA diving teams sending up clusters of 7 tires with 12 lift bags which are then lifted on deck using a hydraulic A-frame and winch. This method was ideal for collecting tires from the most sensitive areas because it allowed for flexibility in the movement of both the divers and the vessel to efficiently clean up a more sparsely populated area. If the sea conditions were not appropriate for using mechanical lifting equipment like the hydraulic a-frame and winch the *Reef Tender* and *Reef Keeper* teams used the slings to pre-rig bundles of 30 tires for collection by the *Reef Ranger* when the weather permits. The pre-rigged bundles were 30 tires each with a large 1 ¼” shackle holding 4 tire slings together to facilitate efficient picking of the load off the bottom by the *Reef Ranger* and allowed for efficient unloading into the 100 cubic yard trailers using a dedicated PEV certified land crane set up and operated by IDC at Berth 28F.

Trailer No. 174 was loaded with 741 tires (173 from SW238-3 B and 568 from SW238-4 A), Trailer No. 175 had 750 tires, Trailer No. 176 had 800 tires, Trailer No. 177 had 800 tires, Trailer No. 178 had 800 tires, Trailer No. 179 had 750 tires, Trailer No. 180 had 750 tires, Trailer No. 181 had 750 tires, Trailer 182 had 750 tires, Trailer 183 had 764 tires, and Trailer 184 has the remaining 18 tires and will be taken once it is full. The weight of the tires was more than 60,000 lbs. for each trailer. Some of the tires in this task order were recovered from the lowest layer of tires directly on top of the sand bottom. These tires have a larger accumulation of sand, silt, and crushed shell making them heavier than tires in the beginning of the previous contract for tire recovery. Due to the increased weight per tire, the number of tires in each trailer had to be reduced to maintain a legal FDOT highway weight limit.

There was no significant or persistent turbidity observed during the collection, transport and unloading of the tires. IDC has continued to adhere to all the permit requirements for this project while finding innovative ways to improve our safety while increasing our efficiency. The pre-rigging of tires by Nitrox equipped SCUBA diving teams working from our smaller DSVs the *Reef Tender* and the *Reef Keeper*, is one way we are significantly increasing overall productivity and efficiency. This technique allows us to continue working in weather conditions that are unsuitable for crane operations offshore. In these less than favorable conditions we are unable to use mechanical lifting capabilities because the rapid and unpredictable movement caused by wave turbulence and high wind but we can safely deploy divers to collect and bundle tires on bottom were turbulent surface conditions will not affect them. These bundles are then picked up by the *Reef Ranger* when seas are more favorable for crane operations.

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Task Order #4 A was invoiced on November 10, 2017. The total number of tires collected for SW238 through November 9, 2017 was 47,796. The total tires collected for SW232 and SW238 combined is 142,500 tires.

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September 29, 2017

To: Michell Smith, Environmental Manager, Florida DEP
From: Rocco Galletta, Vice President, IDC

Re: Osborne Reef Tire Mitigation SW238-3: Progress Report Task 3 B

Industrial Divers Corporation (IDC) began on Task Order No. SW238-3 part B on August 16, 2017 with up to three five diver teams using Nitrox with surface supplied dive gear and SCUBA diving equipment. From August 16, 2017 to September 28, 2017, five diver teams were deployed with the *Reef Ranger*, *Reef Tender*, and/or *Reef Keeper* Dive Support Vessels (DSV). The combination of one, two, or three DSV's working together, each with a five-diver team, collected a total of 7,500 tires. The *Reef Tender* and *Reef Keeper* teams removed tires from the low density hard bottom reef edge in Priority area 1 along the west edge of the Osborne site, as per instructions from Pat Quinn PhD. Broward County ERM. These two teams used an unmoored vessel technique that uses lift bags to retrieve the tires. *Reef Tender* and *Reef Keeper* teams can also pre-rig up to 900 additional tires to be recovered by the *Reef Ranger* when weather conditions were good enough for diving operations but unfavorable for crane operations due to high wind or swells. IDC has also added a full-time coordinator to manage the higher volume of trailers (up to six per week) generated by the additional boats and crews, and a full-time mechanic and a worker dedicated to filling pressurized cylinders needed for diving. Two of the three vessels have been equipped with twelve commercial lift bags and tire rigging slings for the unmoored lift bagging technique. In addition, IDC purchased thirty 1 ¼" shackles and has made 120 extra tire slings which are dedicated for pre-rigging up to 900 tires for pick up by the *Reef Ranger* crane.

The 7,500 tires were recovered and emptied into eleven 100 cubic yard trailers located at Berth 28F in Port Everglades. All diving was performed using surface supplied Nitrox diving practices with Kirby Morgan diving helmets using hard wired communications or a two-diver team using SCUBA gear and Nitrox breathing gas. All the tires collected by the *Reef Ranger* DSV were lifted in 5 tire clusters with up to 6 clusters at a time totaling 30 tires per lift with the on-board crane. The tire bundles were placed in cargo nets lined with filter fabric which were deployed in the self-bailing hold of the DSV. The *Reef Tender* and *Reef Keeper* teams used an innovative

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“live-boat” method with Nitrox SCUBA diving teams sending up clusters of 7 tires with 12 lift bags which are then lifted on deck using a hydraulic A-frame and winch. This method was ideal for collecting tires from the most sensitive areas because it allowed for flexibility in the movement of both the divers and the vessel to efficiently clean up a more sparsely populated area. If the sea conditions were not appropriate for using mechanical lifting equipment like the hydraulic a-frame and winch the *Reef Tender* and *Reef Keeper* teams used the slings to pre-rig bundles of 30 tires for collection by the *Reef Ranger* when the weather permits. The pre-rigged bundles were 30 tires each with a large 1 ¼” shackle holding 4 tire slings together to facilitate efficient picking of the load off bottom by the *Reef Ranger* and allowed for efficient unloading into the 100 cubic yard trailers using a dedicated PEV certified land crane set up and operated by IDC at Berth 28F.

Trailer No. 164 was loaded with 780 tires (283 from SW238-3 A and 497 from SW238-3 B), Trailer No. 165 had 785 tires, Trailer No. 166 had 780 tires, Trailer No. 167 had 721 tires, Trailer No. 168 had 750 tires, Trailer No. 169 had 750 tires, Trailer No. 170 had 780 tires, Trailer No. 171 had 753 tires, Trailer 172 had 752 tires, Trailer 173 had 759 tires, and Trailer 164 has the remaining 173 tires and will be taken once it is full. The weight of the tires was more than 60,000 lbs. for each trailer. Some of the tires in this task order were recovered from the lowest layer of tires directly on top of the sand bottom. These tires have a larger accumulation of sand, silt, and crushed shell making them heavier than tires in the beginning of the previous contract for tire recovery. Due to the increased weight per tire, the number of tires in each trailer had to be reduced to maintain a legal FDOT highway weight limit.

There was no significant or persistent turbidity observed during the collection, transport and unloading of the tires. IDC has continued to adhere to all the permit requirements for this project while finding innovative ways to improve our safety while increasing our efficiency. The pre-rigging of tires by Nitrox equipped SCUBA diving teams working from our smaller DSVs the *Reef Tender* and the *Reef Keeper*, is one way we are significantly increasing overall productivity and efficiency. This technique allows us to continue working in weather conditions that are unsuitable for crane operations offshore. In these less than favorable conditions we are unable to use mechanical lifting capabilities because the rapid and unpredictable movement caused by wave turbulence and high wind but we can safely deploy divers to collect and bundle tires on bottom were turbulent surface conditions will not affect them. These bundles are then picked up by the *Reef Ranger* when seas are more favorable for crane operations.

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Task Order #3 B was invoiced on September 29, 2017. The total number of tires collected for SW238 through September 28, 2017 was 40,296. The total tires collected for SW232 and SW238 combined is 135,000 tires.

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May 25, 2017

To: Michell Smith, Environmental Manager, Florida DEP
From: Rocco Galletta, Vice President, IDC

Re: Osborne Reef Tire Mitigation SW238-2 A: Progress Report Task 2 Part A

Industrial Divers Corporation (IDC) began on Task Order No. 2 on April 26, 2017 with multiple five diver team using Nitrox and SCUBA diving equipment. From April 26, 2017 to May 23, 2017, five diver teams were deployed with the "Reef Ranger", "Reef Tender", and/or "Reef Keeper" Tire Recovery Vessels (TRV). The combination of one, two, or three TRV's working in conjunction, each with a five diver team, collected a total of 7,500 tires. The "Reef Tender" & "Reef Keeper" teams removed tires from the low density hard bottom reef edge in the Priority 1 Area along the western edge of the Osborne Reef as per instructions from Dr. Pat Quinn, Broward County ERM. These teams also pre-rigged additional tires to be recovered by the "Reef Ranger" when weather conditions were good enough for diving operations but unfavorable to crane operations due to high winds or swells. IDC has also added a full-time coordinator to manage the higher volume of trailers (up to six per week) generated by the additional boats and crews, and a full-time mechanic and gas mixer supporting the two or three 5 diver teams on TRV's breathing gas supply needs.

The 7,500 tires were recovered and emptied into eleven 100 cubic yard trailers located at Berth 28E in Port Everglades. All diving was performed using surface supplied Nitrox diving techniques with Kirby Morgan diving helmets using real time communications or 2 diver Nitrox SCUBA teams. All of the tires collected by the "Reef Ranger" TRV were lifted in 5 tire clusters with 4 clusters totaling 20 tires per lift with the on board crane. The 20 tire bundles were placed in cargo nets lined with filter fabric which were deployed in the self-bailing tire hold of the TRV. The "Reef Tender" & "Reef Keeper" teams used an innovative "live-boat" method with Nitrox SCUBA diving teams sending up clusters of tires with lift bags which are then hoisted aboard using a hydraulic A-frame and winch.

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Trailer No. 127 was loaded with 800 tires (578 from SW238-2 A, 222 from SW238-1), Trailer No. 128 had 800 tires, Trailer No. 129 had 750 tires, Trailer No. 130 had 780 tires, Trailer No. 131 had 744 tires, Trailer No. 132 had 762 tires, Trailer No. 133 had 780 tires, Trailer No. 134 had 759 tires, Trailer No. 135 had 749 tires, Trailer No. 136 had 768, Trailer No. 137 has the remaining 30 tires and will be taken once it is full. The weight of the tires and sand was more than 50,000 lbs. for each trailer. The some of the tires in this task order were recovered from the lowest layer directly on the sand bottom. Theses tires have a larger accumulation of sand, silt, and crushed shell making them heavier than tires in the early part of the previous contract for tire recovery. Due to the increased weight per tire, the number of tires in each trailer had to be reduced in order to maintain a legal FDOT highway weight.

There was no significant or persistent turbidity observed during the collection, transport and unloading of the tires.

Task Order #2 Part A was invoiced on May 25, 2017. The total number of tires collected for SW238 through May 23, 2017 was 17,500. The total tires collected for SW232 and SW238 combined is 106,915 tires.

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July 3, 2017

To: Michell Smith, Environmental Manager, Florida DEP
From: Rocco Galletta, Vice President, IDC

Re: Osborne Reef Tire Mitigation SW238-2 B: Progress Report Task 2 Part B

Industrial Divers Corporation (IDC) began on Task Order No. 2 Part B on May 23, 2017 with multiple five diver team using Nitrox and SCUBA diving equipment. From May 23, 2017 to June 30, 2017, five diver teams were deployed with the "Reef Ranger", "Reef Tender", and/or "Reef Keeper" Tire Recovery Vessels (TRV). The combination of one, two, or three TRV's working in conjunction, each with a five diver team, collected a total of 7,500 tires. The "Reef Tender" & "Reef Keeper" teams removed tires from the low density hard bottom reef edge in the Priority 1 Area along the western edge of the Osborne Reef as per instructions from Dr. Pat Quinn, Broward County ERM. These teams also pre-rigged additional tires to be recovered by the "Reef Ranger" when weather conditions were good enough for diving operations but unfavorable to crane operations due to high winds or swells. IDC has also added a full-time coordinator to manage the higher volume of trailers (up to six per week) generated by the additional boats and crews, and a full-time mechanic and gas mixer supporting the two or three 5 diver teams on TRV's breathing gas supply needs.

The 7,500 tires were recovered and emptied into eleven 100 cubic yard trailers located at Berth 28E in Port Everglades. All diving was performed using surface supplied Nitrox diving techniques with Kirby Morgan diving helmets using real time communications or 2 diver Nitrox SCUBA teams. All of the tires collected by the "Reef Ranger" TRV were lifted in 5 tire clusters with 4 clusters totaling 20 tires per lift with the on board crane. The 20 tire bundles were placed in cargo nets lined with filter fabric which were deployed in the self-bailing tire hold of the TRV. The "Reef Tender" & "Reef Keeper" teams used an innovative "live-boat" method with Nitrox SCUBA diving teams sending up clusters of tires with lift bags which are then hoisted aboard using a hydraulic A-frame and winch.

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Trailer No. 137 was loaded with 799 tires (769 from SW238-2 B, 30 from SW238-2 A), Trailer No. 138 had 750 tires, Trailer No. 139 had 750 tires, Trailer No. 140 had 809 tires, Trailer No. 141 had 744 tires, Trailer No. 142 had 729 tires, Trailer No. 143 had 684 tires, Trailer No. 144 had 720 tires, Trailer No. 145 had 738 tires, Trailer No. 146 had 755, Trailer No. 147 has the remaining 52 tires and will be taken once it is full. The weight of the tires and sand was more than 50,000 lbs. for each trailer. The some of the tires in this task order were recovered from the lowest layer directly on the sand bottom. Theses tires have a larger accumulation of sand, silt, and crushed shell making them heavier than tires in the early part of the previous contract for tire recovery. Due to the increased weight per tire, the number of tires in each trailer had to be reduced in order to maintain a legal FDOT highway weight.

There was no significant or persistent turbidity observed during the collection, transport and unloading of the tires.

Task Order #2 Part B was invoiced on June 30, 2017. The total number of tires collected for SW238 through June 30, 2017 was 25,000. The total tires collected for SW232 and SW238 combined is 114,415 tires.

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April 27, 2017

To: Michell Smith, Environmental Manager, Florida DEP
From: Rocco Galletta, Vice President, IDC

Re: Osborne Reef Tire Mitigation SW238-1: Progress Report #1

Industrial Divers Corporation (IDC) began on Task Order No. 1 on February 15, 2017 with multiple five diver team using Nitrox and SCUBA diving equipment. From February 15, 2017 to April 26, 2017, five diver teams were deployed with the "Reef Ranger", "Reef Tender", and/or "Reef Keeper" Tire Recovery Vessels (TRV). The combination of one, two, or three TRV's working in conjunction, each with a five diver team, collected a total of 10,000 tires. The "Reef Tender" & "Reef Keeper" teams removed tires from the low density hard bottom reef edge in the Priority 1 Area along the western edge of the Osborne Reef as per instructions from Dr. Pat Quinn, Broward County ERM. These teams also pre-rigged additional tires to be recovered by the "Reef Ranger" when weather conditions were good enough for diving operations but unfavorable to crane operations due to high winds or swells. IDC has also added a full-time coordinator to manage the higher volume of trailers (up to six per week) generated by the additional boats and crews and a full-time mechanic and gas mixer supporting the two or three 5 diver teams on TRV's breathing gas supply needs.

The 10,000 tires were recovered and emptied into fifteen 100 cubic yard trailers located at Berth 28E in Port Everglades. All diving was performed using surface supplied Nitrox diving techniques with Kirby Morgan diving helmets using real time communications or 2 diver Nitrox SCUBA teams. All of the tires collected by the "Reef Ranger" TRV were lifted in 5 tire clusters with 4 clusters totaling 20 tires per lift with the on board crane. The 20 tire bundles were placed in cargo nets lined with filter fabric which were deployed in the self-bailing tire hold of the TRV. The "Reef Tender" & "Reef Keeper" teams used an innovative "live-boat" method with Nitrox SCUBA diving teams sending up clusters of tires with lift bags which are then hoisted aboard using a hydraulic A-frame and winch.

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Trailer No. 113 was loaded with 744 tires (217 from SW238-1, 527 from SW232-16), Trailer No. 114 had 768 tires, Trailer No. 115 had 762 tires, Trailer No. 116 had 678 tires, Trailer No. 117 had 672 tires, Trailer No. 118 had 742 tires, Trailer No. 119 had 736 tires, Trailer No. 120 had 727 tires, Trailer No. 121 had 720 tires, Trailer No. 122 had 768, Trailer No. 123 had 733, Trailer No. 124 had 733, Trailer No. 125 had 750, Trailer No. 126 had 772, and Trailer No. 127 has the remaining 222 tires and will be taken once it is full. The weight of the tires and sand was more than 50,000 lbs. for each trailer. The tires in this task order were recovered from the lowest layer directly on the sand bottom. These tires have a larger accumulation of sand, silt, and crushed shell making them heavier than tires in the early part of the previous contract for tire recovery. Due to the increased weight per tire, the number of tires in each trailer had to be reduced in order to maintain a legal FDOT highway weight.

There was no significant or persistent turbidity observed during the collection, transport and unloading of the tires.

Task Order #1 was invoiced on April 27, 2017. The total number of tires collected for SW238 through April 26, 2017 was 10,000. The total tires collected for SW232 and SW238 combined is 99,415 tires.