

Couvillion Group, LLC MC 20 Hydrocarbon Pump-Off #42 Results Report

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Revision	Date	Ву	Check	Approve	Remarks
0	9/27/2022				Initial
					Document

Summary:

Couvillion Group's Rapid Response Collection System initiated its forty-second collection cycle on 8/5/2022 and completed the cycle on 9/2/2022 resulting in a collection duration of 28.5 days. Using the OSV Brandon Bordelon the collected hydrocarbon fluid that was recovered from the subsea oil containment vessels was taken to the Couvillion Dock in Port Fourchon, Louisiana. Vessel to Dockside Transfer commenced on 9/5/2022, with 563.9 bbl of hydrocarbon fluids transferred to onshore frac tanks 1 and 2 according to NRC frac tank strapping.

On 9/19/2022, Couvillion Group confirmed the initial measurement of 563.9 bbl of hydrocarbon fluids in frac tanks 1 and 2 via strap measurements. After a confirmation measurement was recorded, the decanting process began. From frac tanks 1 and 2, a total of 16.6 bbl of water was decanted. This 16.6 bbl of water was sent to the third frac tank for disposal at a later time. A gross total of 532.1 bbl of fluids according to NRC strapping measurements was sent to Acadiana oil using tank trucks from frac tanks 1 and 2. After temperature and BS&W deductions a net total of 514.9 bbl of oil was transferred from tanks 1 and 2 in the Port Fourchon yard to the Acadiana Oil Company.

Along with the processing of frac tanks 1-3 Couvillion Group processed the 4th frac tank which is referred to as the residual tank. The residual tank had an initial volume of 203.3 bbl of hydrocarbon fluids. A total of 16.0 bbl of water was decanted out of the frac tank and sent to the third frac tank for disposal at a later time. Following the decant process, 160.7 bbl of hydrocarbon fluids were sent to Acadiana Oil in Berwick, La. After temperature and BS&W deductions a net total of 137.0 bbl of oil was transferred from tank 4 in the Port Fourchon Yard to the Acadiana Oil Company in Berwick, Louisiana. After processing was completed 26.6 bbl of hydrocarbon fluids were left in the 4th frac tank for processing at a later date. Total fluid reconciliation for frac tank 4 was within 0.0%

Procedures Followed:

Couvillion Group and the associated companies participating in the collection and transportation of hydrocarbon fluids from the MC-20 site to the Acadiana Oil Company site have compiled a set of procedures that are followed throughout the process. The MC20 Response Disposal Plan with associated documentation pertaining to custody transfer and hydrocarbon fluids measurements for this report are in Appendix I. Appendix II includes the NRC waste handling documentation.

Execution:

Offshore Collection of Hydrocarbon Fluids at MC 20 Site:

The Brandon Bordelon OSV moved in place on location at MC20 on 9/2/2022 at 12:32 hrs. An as-found ROV survey was conducted prior to commencement of pump off operations. To begin pump off operations ROV's were launched and thereafter the hydraulic subsea pump and hoses were over boarded. The inlet hose to the hydraulic subsea pump was connected to the offload outlet on the subsea oil storage containers. On 9/2/2022 the ATI/BTI were closed at 14:35, marking the end of the 42nd collection cycle. Pumping commenced at 6:32 hrs on 9/3/2022 and ended at 14:06 on 9/3/2022. Fluids were sampled on the vessel every 20 minutes for field analysis to determine the estimated oil to water ratios until water breakthrough occurred and collection operations were then stopped. A total of 565.9 bbl of hydrocarbon fluid was collected according to the tank strap measurement taken offshore. Upon pump off completion the hoses and pump were surfaced and flushed with saltwater that was sent to a filtration system for treatment and over boarding.

Vessel to Dockside Transfer

The Brandon Bordelon arrived at the Couvillion Dock in Port Fourchon, Louisiana on 9/5/2022. On the morning of 9/5/2022 hoses were run from the tanks on the vessel through a diaphragm pump and then run to 500 bbl frac tanks. The pump-off process was begun and continued until all MPT tanks aboard the OSV Brandon Bordelon were empty. Tankermen from Team Services verified that the MPT tanks onboard the vessel was emptied, then an NRC representative strapped the dockside frac tanks to determine **the total quantity transferred which was 563.9 bbl.** With the dockside transfer complete, the fluid was allowed to settle out water from the oil over a period of time before the transfer of the oil from the frac tanks to tank trucks.

Dockside Frac Tanks to Truck Transfers

On the morning of 9/20/2022 at 06:00 hrs the first round of frac tanks to tank truck transfers commenced. A hose was attached to the frac tank and ran through a diaphragm pump into a tank truck. Pumping commenced and the first truck received 151.5 bbls of hydrocarbon fluids. The second day of truck transfers began on 9/21/2022 at 06:00. The first truck received 151.9 bbls, the second truck received 153.7 bbls, and the final truck of pump off 42 received 75.0 bbls of hydrocarbon fluids. There was a total of 15.5 bbls of residual fluids which remained in frac tanks 1 and 2 and was later pumped into tank 4. All values were recorded in the appropriate forms in the MC-20 Response Disposal Plan (see report Appendix I). Total fluid reconciliation for frac tanks 1-3 was within 0.1%.

Truck to Facility Transfer

Upon arrival at the Acadiana Oil Company site each truck enters a loading bay. Before any fluids are transferred an Acadiana Oil Representative straps their tank for an initial measurement and then transfer of fluid begins. While the pump off is underway an Acadiana Oil Company Representative takes three fluid samples during the transfer process from the pump outlet from which hydrocarbon fluid is flowing. These samples are taken at the beginning of the transfer, mid-way through the transfer, and at the end of the transfer process to ensure a full mixture. The sample is then taken to their testing area where tests are run to determine: % BS&W content, temperature, and specific gravity. Temperature and specific gravity are recorded via the use of a hydrometer, while BS&W content is determined via the use of a centrifuge with a 50/50 mixture of the sample with mineral spirits. Once all sampling is completed and recorded (see copy in Appendix I) the Acadiana Oil Company Representative again straps their tank to obtain a post transfer level. The gross fluids that are recorded is determined by subtracting the initial pump off tank strap level from the post transfer tank strap level. This gross fluid value is corrected for temperature, specific gravity and BS&W content to determine the net oil value that is recorded. This process is repeated for each truck offload.

Summary Tally and Running Totals:

The tables below show an oil tally, a total fluid reconciliation, and a flow rate calculation. In total 563.9 bbl of hydrocarbon fluid was transferred from the Brandon Bordelon into an onshore frac tank. Tank trucks transported a gross total of 532.1 bbl to the Acadiana Oil Company, which netted out to a total of 514.9 bbl. From a total fluid reconciliation standpoint, measurements at different site locations were within 0.1 % for frac tanks 1-3. The calculated flow rate during the 28.5-day collection cycle offshore was 18.1 bbl/day or 760.2 gal/day. Monthly pump off collection rates reflects collection rates which are not inclusive of product that remains in the residual tank. This causes monthly collection rates to appear slightly lower than the historic average. As of the end of this pump off campaign 1,086,594.6 gallons of salvaged crude oil has been contained from the MC-20 site.

Oil Tally

					Truck 1				Truck 2				Truck 3				Truck 4					Running
Oil Tally	Date	Total Fluid	Total Fluid		Total Fluids	Total Fluid			Total Fluids	Total Fluid			Total Fluids	Total Fluid			Total Fluids	Total Fluid			Total	Total
		Transfer	Frac	%	to Acadiana	at	%	Net	to Acadiana	at	%	Net	to Acadiana	at	%	Net	to Acadiana	at	%	Net	Net	Net
		by	Tank Strap		NRC Frac	Acadiana			NRC Frac	Acadiana			NRC Frac	Acadiana			NRC Frac	Acadiana				
		Siemens	by NRC	Diff	Strap	by strap	Diff	Oil	Strap	by strap	Diff	Oil	Strap	by strap	Diff	Oil	Strap	by strap	Diff	Oil	Oil	Oil
		(bbl)	(bbl)		(bbl)	(bbl)		(bbl)	(bbl)	(bbl)		(bbl)	(bbl)	(bbl)	\vdash	(bbl)	(bbl)	(bbl)	\vdash	(bbl)	(bbl)	(bbl)
Pump Off #1	4/26/2019 5/6/2019	220.0	215.7	-2.0	113.7	110.0	3.3	108.8	97.0	87.4	9.9	78.6									187.4	187.4
Pump Off #2	5/3/2019	246.3	223.5	-10.2	113.7	110.0	3.3	100.0	37.0	07.4	5.5	78.0									107.4	107.4
rump on #2	5/8/2019	240.5	223.3	-10.2	101.3	102.0	-0.7	99.7	82.8	83.8	-1.2	81.9									181.6	369.0
Pump Off #3	5/13/2019	335.0	331.2	-1.1	101.5	102.0	0.7	33.7	02.0	05.0	2.2	01.5									101.0	303.0
	5/16/2019				103.2	89.1	13.7	82.9	126.4	136.4	-7.9	132.1	108.5	99.5	8.3	80.7					295.7	664.8
Pump Off #4	6/19/2019	901.7	905.5	0.4	139.4	145.8	-4.6	143.0	138.7	139.4	-0.5	137.4										
	6/20/2019				137.7	136.2	1.1	113.0	140.7	141.4	-0.5	139.4	140.6	141.4	-0.6	134.2	144.1	141.4	1.9	138.4		
	6/21/2019				48.5	47.1	2.8	44.6													850.0	1,514.8
Pump Off #5	7/31/2019	1200.2	1196.6	-0.3	139.2	138.3	0.6	133.7	142.7	150.0	-5.1	146.5										
	8/1/2019				139.1	145.7	-4.7	135.1	140.7	138.4	1.6	131.9	146.0	142.0	2.7	81.3	138.0	142.0	-2.9	140.0		
	8/2/2019				99.8	112.9	-13.1	111.0	101.1	105.6	-4.5	104.2			<u> </u>						983.7	2,498.5
Pump Off #6	8/26/2019	848.0	874.6	3.0	141.7	138.4	2.3	134.6	140.3	145.7	-3.8	140.6	141.5	145.7	-3.0	143.2						
	8/27/2019				140.5	138.4	1.5	135.5	137.2	142.0	-3.5	139.1	61.3	65.6	-7.0	64.2					757.2	3,255.7
Pump Off #7	9/23/2019	891.9	880.4	-1.3	138.0	134.7	2.4	132.4	144.3	151.8	-5.2	148.9	142.6	142.0	0.4	139.7					/5/.2	3,255.7
Pump On #7	9/23/2019	891.9	880.4	-1.3	144.4	142.0	1.7	139.1	144.3	138.4	3.7	135.5	55.3	54.6	1.3	53.7					749.3	4,005.0
Pump off #8	10/21/2019	790.9	787.4	-0.4	144.4	142.0	1.7	133.1	143.7	130.4	3.7	133.3	33.3	54.0	1.5	33.7					743.3	4,003.0
1 dilip oli #0	10/22/2019	750.5	707.4	-0.4	143.9	131.0	9.0	129.1	154.3	151.9	1.5	149.7	144.0	136.2	5.4	134.2						
	10/23/2019				137.7	141.4	-2.7	139.2	130.0	125.7	3.3	123.6										
Residual Tank	10/23/2019	t	205.1					l			†		125.4	125.7	-0.2	123.6	t				799.4	4,804.4
Pump off #9	11/11/2019	772.3	757.8	-1.9																		
,	11/19/2019				142.3	156.5	-10.0	153.6	143.8	131.0	8.9	128.8	145.3	142.0	2.3	139.9						
	11/20/2019				145.6	145.6	0.0	143.6	92.1	94.6	-2.8	93.3									659.1	5,463.5
Pump off #10	12/17/2019	940.7	942.8	0.2	142.0	138.4	2.5	136.9	71.4	69.2	3.1	68.5	146.4	145.7	0.5	144.2						
	12/18/2019				146.4	138.4	5.5	136.8	144.3	145.7	-1.0	144.4	144.0	142.0	1.4	140.8	47.4	47.4	0.0	47.0	818.6	6,282.1
Pump off #11	1/9/2020	697.7	691.0	-1.0	128.7	131.1	-1.9	128.3	128.0	131.1	-2.4	129.3	129.8	131.1	-1.0	129.6						
2011 17 1	1/10/2020		 -		79.4	91.0	-14.6	90.0	92.6	91.1	1.6	90.0					 				707.0	5 000 3
Residual Tank Pump off #12	1/8/2020 2/12/2020	725.4	722.5	-0.4	141.9 120.8	142.0 123.8	-0.1 -2.5	140.0 115.8	102.1	101.9	0.2	100.4	99.0	101.9	-2.9	97.5					707.2	6,989.3
Pump on #12	2/12/2020	725.4	/22.5	-0.4	149.5	160.2	-2.5 -7	154	114.2	101.9	10.8	61.1	99.0	101.9	-2.9	97.5						
Residual Tank	2/13/2020	 	 		108.2	105.6	2.4	101.3	114.2	101.52	10.6	01.1					 				630.1	7.619.4
Pump off #13	3/11/2020	583.7	570.2	-2.4	100.2	103.0	2	101.5													030.1	7,013.4
	3/12/2020				114.5	115.2	-0.6	112.7	138.3	136.2	1.5	134.3										
	3/13/2020				93.6	94.3	-0.7	91.9	120.0	120.4	-0.3	117.5									456.4	8,075.8
Pumpoff #14	4/16/2020	966.7	928.8	-4.1	147.2	146.5	0.5	144.6	145.2	141.2	2.8	139.4	148.0	146.5	1.0	143.7						
	4/17/2020	L	L		144.9	146.5	-1.1	144.3	144.1	141.2	2.0	139.1	87.4	88.9	-1.7	87.3	ll		L		798.4	
Residual Tank	4/14/2020				149.9	151.9	-1.3	132.3													132.3	9,006.5
Pump off #15	5/7/2020	798.4	783.1	-1.9	150.3	145.8	3.0	143.4	148.0	153.1	-3.4	149.4	145.2	142.1	2.1	138.7						
	5/8/2020				147.2	149.4	-1.5	147.6	131.7	131.2	0.4	128.6									707.7	9,714.2
Pump off #16	5/28/2020	598.8	583.3	-2.7	142.1	140.3	1.3	137.5	l		١	l			١. ا						l l	
	5/29/2020	070.4	055.0		138.0	138.5	-0.4	134.1	135.1	134.8	0.2	131.7	115.0	116.6	-1.4	109.7			\vdash		513.0	10,227.2
Pumpoff #17	7/8/2020	970.1	956.3	1.4	140.1	140.0	0.5	146.0	140.0	145.5		142.5	140.3	140.0	٠.	146.0						
	7/9/2020 7/10/2020	l			149.1 150.7	149.9 149.6	-0.5 0.7	146.8 146.6	148.8 137.1	145.5 138.0	2.2 -0.7	142.5 135.2	149.2 119.9	149.9 119.0	-0.5 0.8	146.8 116.5					834.4	11,061.4
Pumpoff #18	7/10/2020	658.4	642.6	-2.5	130.7	145.0	0.7	140.0	137.1	130.0	-0.7	133.2	117.7	115.0	0.0	110.5					034.4	11,001.4
. umpon #10	7/27/2020	030.4	042.0	-2.5	129.9	129.9	0.0	127.8	140.6	140.6	0.0	137.7	138.2	138.2	0.0	135.7	139.8	139.8	0.0	137.5		
	7/28/2020	l	1		66.0	66.0	0.0	62.8	1-10.0	1-10.0	5.5	137.7	130.1	150.1	5.5	155.7	100.0	155.0	5.5	237.3	601.5	11,663.1
Residual Tank	7/28/2020	t	 		 				113	113	0.0	110.7					t				110.7	11,773.8
Pumpoff #19	9/1/2020	901.6	886.4	-1.7	128.2	128.2	0.0	125.6	135.5	135.5	0.0	132.6										
	9/2/2020	l			131.2	131.2	0.0	128.3	136.8	136.8	0.0	134.0	134.8	134.8	0.0	132.0	135.9	135.9	0.0	133.0	785.5	12,559.3
I		l																				

Oil Tally Contd.

					Truck 1				Truck 2				Truck 3				Truck 4					D
Oil Tally	Date	Total Fluid	Total Fluid		Total Fluids	Total Fluid		1	Total Fluids	Total Fluid			Total Fluids	Total Fluid	1		Total Fluids	Total Fluid			Total	Running Total
Oil Tally	Date	Transfer	Frac	%	to Acadiana	at	%	Net	to Acadiana	at	%	Net	to Acadiana	at	%	Net	to Acadiana	at	%	Net	Net	Net
				70	NRC Frac	Acadiana	76	ivet	NRC Frac	Acadiana	70	Net	NRC Frac	Acadiana	76	Net	NRC Frac	Acadiana	76	ivet	Net	net
1		by Siemens	Tank Strap by NRC	Diff	Strap	by strap	Diff	Oil	Strap	by strap	Diff	Oil	Strap	by strap	Diff	Oil	Strap	by strap	Diff	Oil	Oil	Oil
		(bbl)	(bbl)	DIII	(bbl)	(bbl)	Dill	(bbl)	(bbl)	(bbl)	DIII	(bbl)	(bbl)	(bbl)	DIII	(bbl)	(bbl)	(bbl)	Dill	(bbl)	(bbl)	(bbl)
Pumpoff #20	9/29/2020	464.2	450.9	-2.9	144.0	140.0	2.8	137.9	143.5	140.0	2.4	137.9	(001)	(DDI)		(DDI)	(001)	(001)		(DDI)	(DDI)	(001)
rumpon #20	9/30/2020	404.2	430.5	-2.5	85.7	83.0	3.2	81.6	143.3	140.0	2.4	137.5									357.4	12.916.7
Residual Tank	10/1/2020		 		136.5	131.0	4.0	128.6					·}	 					 -		128.6	13,045.3
Pumpoff #21	10/1/2020	620.9	610.1	-1.8	139.0	139.0	0.0	130.8	145.3	145.0	0.2	142.1									120.0	13,043.3
Pumpon #21	10/15/2020	620.9	610.1	-1.8				142.5	136.0	135.0		132.9									548.3	12 502 6
D ((#22		505.5	673.3	4.0	147.2	144.0	2.2				0.7		445.4	440.0		420.2					348.3	13,593.6
Pumpoff #22	11/16/2020 11/17/2020	685.6	673.2	-1.8	146.5 133.2	143.0 130.0	2.4	139.7 124.3	143.4	142.0	1.0	140.1	146.4	140.0	4.4	128.3					532.4	14,126.0
D	12/30/2020	781.7	784.3	0.3	146.1	140.0	4.2	137.3	146.8	140.0	4.0	138.6	145.2	137.0	5.6	122.0					552.4	14,126.0
Pumpoff #23		/81./	784.3	0.3						140.0	4.6 2.5	107.2	145.2	137.0	5.6	133.9						447044
2 ((24	12/31/2020	676.5	662.0	4.0	145.3	141.0	3.0	138.4	113.9	111.0	2.5	107.2									655.4	14,781.4
Pumpoff # 24	1/27/2021	676.5	663.9	-1.9	123.9																	
	1/28/2021				141.0		*	*	140.2	140.0	0.1	137.7	146.8	*	*	*						
	2/19/2021	ļ	 		146.0	135.0	7.5	133.7	150.7	141.0	6.4	139.0	115.3	112.0	2.9	107.05			!	ļ	517.5	15,298.9
Residual Tank	2/20/2021				100.9	101.5	-0.6	96.0							_				_		96.0	15,394.9
Pumpoff #25	3/8/2021	759.7	738.1	-2.9	144.6	143.0	1.1	140.9	146.5	143.0	2.4	141.7	146.0	140.0	4.1	137.4					624.7	16,019.5
	3/9/2021				144.1	140	2.8	133.9	77.3	75.0	3.0	70.8	<u> </u>									
Pumpoff #26-27	4/21/2021	498.2	472.6	-5.4	143.7	136.2	5.2	134.8	142.6	138.6	2.8	137.2		l								
	4/22/2021	553.0	544.3	-1.6	123.5	129.7	-5.0	128.0	146.4	146.7	-0.2	146.6	144.1	142.0	1.5	139.9						
	4/23/2021		LI			L	<u> </u>	<u> </u>	111.4	109.1	2.1	106.3		<u> </u>	L				L	L	792.8	16,812.3
Residual Tank	4/23/2021				132.5	131	1.1	127.0													127.0	16,939.3
Pumpoff #28	5/26/2021	716.0	706.1	-1.4																		
	5/27/2021				144.5	140.6	2.7	136.3	141.1	139.0	1.5	136.6	143.3	140.4	2	137.9					565.2	17,504.5
	5/28/2021				81.1	78.0	3.8	76.1	88.7	82.0	7.6	78.3										
	7/14/2021																					
Pumpoff #29	7/15/2021	648.0	631.7	-2.6	114.7	115.3	-0.5	113.8	150.8	149.0	1.2	145.9	119.8	120.2	-0.3	118.5	155.3	151.7	2.3	149.2	527.4	18,031.9
	7/16/2021																					
Pumpoff #30	8/5/2021	763.0	750.2	-1.7	115.3	115.0	0.3	112.9	112.6	111.0	1.4	109.0	106.8	105.0	1.7	103.2					673.4	18705.3
	8/6/2021				118.5	118.0	0.4	115.5	118.4	117.0	1.2	114.2	124.3	123.0	1.0	118.6						
Pumpoff #31	9/23/2021	616.2	598.4	-3.0	145.6	141.6	2.7	140.0	142.9	142.9	0.0	141.8									530.8	19236.1
	9/24/2021				126.3	123.1	2.5	119.8	138.7	134.3	3.2	129.2										
Pumpoff #32	11/3/2021	952.4	937.1	-1.6	147.8	147.0	0.5	145.5	148.7	148.0	0.5	146.0										
	11/4/2021				152.5	149.0	2.3	147.0	154.6	145.0	6.2	142.2										
	11/5/2021				150.2	147.0	2.1	144.8														
	11/9/2021				118.8	117.0	1.5	115.4													840.9	20077.0
Pumpoff #33	11/30/2021	787.9	786.2	-0.2	142.9	140.5	1.7	139.5	144.0	140.9	2.2	139.9	149.6	145.3	2.9	143.6						
	12/1/2021				141.5	138.5	2.1	137.8	130.9	128.0	2.2	127.2									688.0	20765.0
Pumpoff #34	1/6/2022	686.6	673.8	-1.9	149.6	140.5	6.1	138.9	144.0	148.3	-3.0	146.1	152.3	148.5		147.2						
	1/7/2022				86.4	87.0	-0.7	86.3													518.5	21283.5
Pumpoff #35	2/16/2022	564.2	551.9	-2.2	144.1	144.0	0.1	142.7	140.2	136.2	2.9	140.2		l					_			
1					125.5	120.0	4.4	118.3	121.8	114.6	5.9	112.3		l							513.5	
Residual Tank	1				94.0	88.0	6.4	70.1													70.1	21867.1
Pumpoff #36	3/23/2022	690.7	678.5	-1.8	152.5	148.3	2.8	147.4	152.7	147.9	3.1	145.8		l					_			
	3/24/2022				148.0	142.1	4.0	141.1	157.6	150.0	4.8	144.6									578.9	22446.0
Pumpoff #37	5/4/2022	882.7	868.2	-1.7	146.0	144.0	1.4	141.4	151.5	146.6	3.2	143.9	156.2	153.0	2.0	150.8			_			
	5/6/2022				145.7	142.4	2.3	141.3	127.3	125.0	1.8	123.7	70.4	68.3	3.0	67.4					768.5	23214.5
Pumpoff #38	6/1/2022	685.4	674.0	-1.7	145.2	142.0	2.2	139.9	150.3	146.7	2.4	144.6										
	6/2/2022				140.2	135.0	3.7	128.1	136.6	132.6	2.9	130.4			<u> </u>						543.0	23757.5
Pumpoff #39	6/29/2022	545.5	539.3	-1.3	145.7	136.9	6.0	134.1	143.6	140.7	2.0	137.7										
	6/30/2022				142.0	139.5	1.8	136.7	49.8	49.0	1.6	46.6			<u> </u>						455.1	24212.6
Pumpoff #40	7/28/2022	707.2	702.1	-0.7	139.1	137.0	1.5	134.4	144.9	140.7	2.9	137.6	135.9	133.2	2.0	130.2						
	7/29/2022				141.8	138.1	2.6	135.2	86.8	83.3	4.0	81.8	1	l							619.2	24831.8
Pumpoff #41	8/26/2022	461.4	459.8	-0.3	149.6	146.2	2.3	143.8														
	8/29/2022				149.9	146.6	2.2	144.0	106.3	102.1	4.0	99.8	<u></u>	<u></u>	L				L	L	387.6	25219.4
Pumpoff #42	9/20/2022	565.9	563.9	-0.4	151.5	147.6	2.6	144.6														
	9/21/2022				151.9	149.9	1.3	146.9	153.7	153.0	0.5	150.0	75.0	75.0	0.0	73.4					514.9	25734.3

Total Fluid Reconciliation

				Truck 1	Truck 2	Truck 3	Truck 4			
		Total Fluid	Water Decanted	Total Fluids	Total Fluids	Total Fluids	Total Fluids	Residual	Total of Fluid	
		Frac Tank Strap	From Frac Tank	to Acadiana	to Acadiana	to Acadiana	to Acadiana	left in	From Trucks,	
		at Port Fourchon	Using Strap	NRC	NRC	NRC	NRC	Frac	Residual &	
		by NRC	Measurement	Frac Strap	Frac Strap	Frac Strap	Frac Strap	Tanks	Decant	%
	Date	(bbl)	(bbl)	(bbl)	(bbl)	(bbl)	(bbl)	(bbl)	(bbl)	Diff
Pump Off #1	4/26/2019 5/6/2019	215.7	0.0	113.7	97.0	0.0	0.0	5.2	215.9	0.1
Pump Off #2	5/3/2019	223.5	15.6	113.7	37.0	0.0	0.0	3.2	213.9	0.1
. up 011 112	5/8/2019	223.3	25.0	101.3	82.8	0.0	0.0	17.6	217.3	-2.8
Pump Off #3	5/13/2019	331.2	0.0							
	5/16/2019			103.2	126.4	108.5	0.0	16.2	354.3	-1.6
Pump Off #4	6/19/2019	905.5	32.5	139.4	138.7	0.0	0.0		310.6	
	6/20/2019			137.7	140.7	140.6	144.1	0.6	563.1	
	6/21/2019 PO4: Total			48.5	0.0	0.0	0.0	0.6	49.1 922.8	-1.8
Pump Off #5	7/31/2019	1196.6	96.3	139.2	142.7				281.9	-1.0
. up 0	8/1/2019	1130.0	30.5	139.1	140.7	146.0	138.0		563.8	
	8/2/2019			99.8	101.0			45.2	246.0	-0.7
	PO5: Total								1188.0	
Pump Off #6	8/26/2019	874.6	56.8	141.7	140.3	141.5			480.3	
	8/27/2019		*	140.5	137.2	61.3		57.9	396.9	
	PO6: Total			1000				*	877.2	0.3
Pump Off #7	9/23/2019 9/24/2019	880.4	41.3	138.0 144.4	144.3 143.7	142.6 55.3		55.3	466.2 398.7	
	9/24/2019 P07: Total			144.4	145.7	55.5		33.3 *	864.9	-1.8
Pump Off #8	10/21/2019	787.4	27.2						27.2	1.0
	10/22/2019			143.9	154.3	144.0			442.2	
	10/23/2019			137.7	130.0	L	l		267.7	
Residual Tank	10/23/2019	205.1	53.5			125.4		66.4	245.3	
	PO8: Total								982.4	-1.0
Pump Off #9	11/19/2019		32.0	142.3	143.8	145.3			463.4	
	11/20/2019	757.8		145.6	92.1			55.6	293.3	0.1
Pump Off #10	PO9: Total 12/17/2019	942.8	33.4	142.0	71.4	146.4			756.7 393.2	-0.1
Fullip Oil #10	12/17/2019	342.8	33.4	146.4	144.3	144.0	47.4	73.9	556.0	
	PO10: Total			140.4	144.5	144.0	47.4	73.3	949.2	0.7
Pump Off #11	1/9/2020	691.0	39.2	128.7	128.0	129.8		72.7	498.4	
	1/10/2020			79.4	92.6	L			172.0	
Residual Tank	1/8/2020	307.0	81.5	141.9				121.7	345.1	
Pumpoff #12	PO11: Total	722.5	49.1						1015.5 49.1	1.8
Pullipoli #12	2/11/2020 2/12/2020	722.5	2.7	120.8	102.1	99.0			324.6	
	2/13/2020		3.9	149.5	114.2			87.5	355.1	
	PO12: Total			<u> </u>				*	728.8	0.9
Residual tank	2/17/2020	265.8	93.6	108.2				121.7	201.8	
	2/18/2020 Resid Total		23.5					121.7	145.2 347	-1.8
Pumpoff #13	3/11/2020	570.2	39.6						39.6	
	3/12/2020		2.8	114.5	138.3				255.6	
	3/13/2020			93.6	120.0			63.7	277.3	0.4
Pumpoff #14	PO13: Total 4/15/2020	928.8	55.1						572.5 55.1	0.4
	4/16/2020	320.0	55.1	147.2	145.2	148			440.4	
	4/17/2020			144.9	144.1	87.4		65.4	441.8	
Daniel val tausl	PO14:Total	244.1	67.6		 	 -			937.3	0.9
Residual tank	4/13/2020 4/14/2020	244.1	67.6	149.9				26.6	67.6 176.5	
	., 1 ., 2020			1.5.5				20.0	244.1	0.0
Pumpoff #15	5/6/2020	783.1	18.3						18.3	
	5/7/2020		1.2	150.3	148.0	145.2		40.0	444.7	
	5/8/2020 PO15: Total			147.2	131.7			40.0	318.9 781.9	-0.2
Pumpoff #16	5/27/2020	583.3	25.3						25.3	0.2
	5/28/2020			142.1					142.1	
	5/29/2020			138.0	135.1	115.0		27.8	415.9	
Residual tank	PO16: Total 5/27/2020		67.2	· 	 	 		153.6	583.3	0.0
Pumpoff #17	7/8/2020	956.3	23.6					100.0	23.6	
,	7/9/2020		2.4	149.1	148.8	149.2			449.5	
	7/10/2020			150.7	137.1	119.9		63.3	471	
Pumpoff #18	PO17: Total 7/22/2020	642.6	14.3	1					944.1	-1.3
7 umpon #10	7/27/2020	0-72.0	14.3	129.9	140.6	138.2	139.8	0.0		
	7/28/2020		13.6	66.0					642.4	0.0
Residual Tank	7/22/2020	299.6	67.2							
Dumpeff #10	7/28/2020	996.4	31.3	113.0	125.5			84.5	296.0	-1.2
Pumpoff #19	9/1/2020 9/2/2020	886.4	7.8	128.2 131.2	135.5 135.9	135.9	134.8	76.2	885.5	-0.1
Residual Tank	8/31/2020	292.6	102.9	·				189.7	189.7	 : -
				•	•					

Total Fluid Reconciliation Contd.

		Total Fluid	Water Decanted	Truck 1 Total Fluids	Truck 2 Total Fluids	Truck 3 Total Fluids	Truck 4 Total Fluids	Residual	Total of Fluid	
		Frac Tank Strap	From Frac Tank	to Acadiana	to Acadiana	to Acadiana	to Acadiana	left in	From Trucks,	
		at Port Fourchon	Using Strap	NRC	NRC	NRC	NRC	Frac	Residual &	
		by NRC	Measurement	Frac Strap	Frac Strap	Frac Strap	Frac Strap	Tanks	Decant	%
	Date	(bbl)	(bbl)	(bbl)	(bbl)	(bbl)	(bbl)	(bbl)	(bbl)	Diff
Pumpoff #20	9/29/2020 9/30/2020	450.9	52.9	144.0 85.7	143.5			24.8	450.9	0.0
Residual Tank	9/30/2020	273.2	116.1	65.7						
D	10/1/2020	C10.1	2.7	136.5	145.2			17.9	273.2	0.0
Pumpoff #21	10/15/2020 10/16/2020	610.1	14.0	139.0 147.2	145.3 136.0			28.6	610.1	0.0
Residual Tank	10/14/2020	293.4	111.8		1			49.5	293.4	0.0
Pumpoff #22	10/15/2020	673.2	132.1 68.7	146.5	143.4	146.4				
	11/17/2020		2.7	133.2	The Control of			32.3	673.2	0.0
Pumpoff #23	12/30/2020	784.3	30.3	146.1 145.3	146.8 113.9	145.2		56.7	784.3	0.0
	1/27/2021	663.9	23.3	145.5	113.3			30.7	704.5	u.u
Pumpoff #24	1/28/2021			140.2	****				cee n	
Residual Tank	2/19/2021 2/20/2021	164.8	11.8 31.1	146.0 100.9	150.7	115.3		68.5 32.8	655.8 164.8	-1.2 0.0
Pumpoff # 25	3/3/2021	738.1	26.1	100.5				32.0	104.0	0.0
rumpon # 25	3/8/2021	730.1	5.7	144.6	146.5	146.0		100		
	3/9/2021			144.1	77.3	2		47.8	738.1	0.0
umpoff # 26-27	4/1/2021	1016.9	73.8							
	4/20/2021		60.2		144.5	1				
	4/21/2021 4/22/2021		6.4	143.7 123.5	142.6 146.4	144.1		62.2	1014.3	
	4/23/2021	THE CONTRACT OF THE	0.4	111.4	140.4	144.1		02.2	1014.5	-0.3
Residual Tank	4/21/2021	216.9	9.4	132.5				23.8		
	4/22/2021	34.40	18.2	1 2 2 2		7	1 1 1 1 1	0.35.1		
	4/23/2021		32.6						216.5	-0.2
Pumpoff #28	5/26/2021	706.1	72.5	1445	141.4	142.2				
	5/27/2021 5/28/2021			144.5 81.1	141.4 88.7	143.3		34.6	706.1	0.0
Pumpoff #29	7/14/2021	-				7			1.0012	
1 10 100	7/15/2021	631.7	81.4	114.7	150.8	119.8	155.3	9.7	631.7	0.0
Residual Tank	7/16/2021	371.2	219.1		11			1.47	371.2	0.0
Pumpoff #30	7/21/2021 8/4/2021	750.2	152.1 20.4							
Pumpon #30	8/5/2021	/30.2	20.4	115.3	112.6	106.8				
	8/6/2021			118.5	118.4	124.3		33.9	750.2	0.0
Pumpoff #31	9/22/2021	598.4	16.7							
	9/23/2021			145.6	142.9				0.00	- 02
	9/24/2021		28.2	126.3	138.7				598.4	0.0
Pumpoff #32	11/3/2021	937.1	31.7	147.8	148.7			1 - 11		
	11/4/2021 11/5/2021			152.5 150.2	154.6			1 6 . 1		
	11/9/2021			118.8				32.0	936.3	-0.1
Pumpoff #33	11/29/2021	786.2	56.0		1					
	11/30/2021	1 - 1 A		142.9	144.0	149.6		6.06	C. N	1.0
	12/1/2021	200.0		141.5	130.9			21.3	786.2	0,0
Pumpoff #34	1/5/2022 1/6/2022	673.8	107.1	149.6	144.0	152.3		2-14	1177	
	1/7/2022	100000		86.4	144.0	132.3		34.2	673.6	-0.6
Pumpoff #35	2/8/2022	551.9	6.2					8.3	555.4	
	2/15/2022	3774	9.3					1874	1	
	2/16/2022			144.1	140.2					4.5
David and Total	2/17/2022	207.1	104.0	125.5	121.8					0.6
Residual Tank	2/8/2022 2/17/2022	207.1	104.8 1.5	94.0				6.8	207.1	0.0
Pumpoff #36	2/21/2022	678.5	-14	2.00						,0,0
	3/18/2022		54.9	1				0.3		
	3/23/2022		3.1	152.5	152,7			31.6	700.4	
Residual Tank	3/24/2022	27.7	27.7	148	157.6			0	373	3.1 0.0
Pumpoff #37	3/18/2022 4/6/2022	868.2	21.1	1				U	27.7	0.0
rumpon #37	4/22/2022	000.2	22.9							
	5/4/2022		2.8	146	151.5	156.2			7.0	
	5/6/2022			145.7	127.3	70.4		46.2	869.0	0.1
Pumpoff #38	5/15/2022	674	W	-						
	5/31/2022		69.2	145.3	1503					
	6/1/2022 6/2/2022		3.9	145.2 140.2	150.3 136.6			28.6	674.0	0.0
Pumpoff #39	6/28/2022	538.3	39.3	140.2	130.0	-	Ŷ	20.0	074.0	0.0
	6/29/2022	77.50	1777	145.7	143.6				1 2 3	
	6/30/2022	1		142	49.8			22.0	542.4	0.2
Pumpoff #40	7/27/2022	702.1	15.4	1124	1 74 64	1 0120				
	7/28/2022 7/29/2022			139.1	144.9	135.9		20.2	702.1	0.0
Pumpoff #41	8/25/2022	459.8	36.5	141.8	86.8			38.2	702.1	0,0
. dilipoli #41	8/26/2022	433.0	30.3	149.6	17 77 1			10.11	· Can	
	8/29/2022	-		149.9	106.3			17.5	459.8	0.0
	9/5/2022	563.9	16.6		10 12 2		-	1	-	
Pumpoff #42										
Pumpoff #42	9/20/2022 9/21/2022			151.5 151.9	153.7	75.0		15.5	564.2	0.1

Barrels of Oil Collected Daily

					Total	Net	RRS		I
					Collection	Oil	Collection Rate	Collecti	on Pato
		Start Time		End Time	Duration	Collected	Of Oil	of	
	Start Date	(hrs)	End Date	(hrs)	(Days)	(bbl)	(bbl/day)	(gallor	
Collection Duration for 1st Trip	4/12/2019	0:00	4/23/2019	1:05	11.0	187.4	17.0	715.7	gallons/day
Collection Duration for 2nd Trip	4/23/2019	1:05	4/30/2019	21:09	7.9	181.6	23.0	965.6	gallons/day
Collection Duration for 3rd Trip	4/30/2019	21:09	5/12/2019	23:20	12.1	295.7	24.4	1026.5	gallons/day
Collection Duration for 4th Trip	5/12/2019	23:20	6/13/2019	17:17	31.5	850.0	27.0	1132.3	gallons/day
Collection Duration for 5th Trip	6/13/2019	17:17	7/21/2019	1:40	37.4	983.7	26.3	1104.7	gallons/day
Collection Duration for 6th Trip	7/21/2019	1:40	8/18/2019	3:15	28.6	757.2	26.5	1112.0	gallons/day
Collection Duration for 7th Trip	8/18/2019	3:15	9/12/2019	22:30	25.8	749.2	29.0	1219.6	gallons/day
Collection Duration for 8th Trip	9/12/2019	22:30	10/9/2019	10:15	26.5	675.8	25.5	1071.1	gallons/day
Collection Duration for 9th Trip	10/9/2019	10:15	11/10/2019	1:05	31.6	659.1	20.8*	875.5	gallons/day
Collection Duration for 10th Trip	11/10/2019	1:05	12/6/2019	10:25	25.9	818.6	31.6*	1327.5	gallons/day
Collection Duration for 11th Trip	12/6/2019	10:25	12/31/2019	22:25	25.5	567.2	22.2	934.2	gallons/day
Collection Duration for 12th Trip	12/31/2019	22:25	1/30/2020	17:50	29.8	528.8	17.7	745.3	gallons/day
Collection Duration for 13th Trip	1/30/2020	17:50	3/2/2020	2:00	31.3	456.4	14.6	612.4	gallons/day
Collection Duration for 14th Trip	3/2/2020	2:00	4/2/2020	1:15	31	798.4	25.8	1081.7	gallons/day
Collection Duration for 15th Trip	4/2/2020	1:15	4/25/2020	15:45	23.1	707.7	30.6	1286.7	gallons/day
Collection Duration for 16th Trip	4/25/2020	15:45	5/15/2020	18:40	20.1	513.0	25.5	1071.0	gallons/day
Collection Duration for 17th Trip	5/15/2020	18:40	6/18/2020	22:55	34.2	834.4	24.4	1024.8	gallons/day
Collection Duration for 18th Trip	6/18/2020	22:55	7/12/2020	15:10	23.7	601.5	25.4	1066.8	gallons/day
Collection Duration for 19th Trip	7/12/2020	15:10	8/13/2020	6:00	33.6	785.5	23.4	982.8	gallons/day
Collection Duration for 20th Trip	8/15/2020	6:00	9/2/2020	13:25	18.3	357.4	19.5	819.0	gallons/day
Collection Duration for 21st Trip	9/2/2020	13:25	10/4/2020	15:20	32.1	548.3	17.1	718.2	gallons/day
Collection Duration for 22nd Trip	10/4/2020	15:20	11/3/2020	16:10	30.0	532.4	17.7	743.4	gallons/day
Collection Duration for 23rd Trip	11/3/2020	16:10	12/10/2020	13:00	36.9	655.4	17.8	747.6	gallons/day
Collection Duration for 24th Trip	12/10/2020	13:00	1/9/2021	9:15	29.8	517.5	17.4	730.8	gallons/day
Collection Duration for 25th Trip	1/9/2021	9:15	2/21/2021	11:30	43.1	624.7	14.5	609.0	gallons/day
Collection Duration for 26th Trip	2/21/2021	11:30	3/15/2021	22:25	22.4	-	-		-
Collection Duration for 27th Trip	3/15/2021	22:25	4/8/2021	12:35	23.6	-	-		-
Collection Duration for 26-27th									
Trip	2/21/2021	11:30	4/8/2021	12:35	46.0	792.8	17.2	722.4	gallons/day
Collection Duration for 28th Trip	4/8/2021	12:35	5/14/2021	12:14	36.0	565.2	15.7	659.4	gallons/day
Collection Duraiton for 29th Trip	5/14/2021	12:14	6/11/2021	12:08	28.0	527.4	18.8	789.6	gallons/day
Collection Duration for 30th Trip	6/11/2021	12:08	7/22/2021	13:38	41.1	673.4	16.4	688.8	gallons/day
Collection Duration for 31st Trip	7/22/2021	13:38	9/4/2021	5:40	43.7	-	-	-	gallons/day
Collection Duration for 32nd Trip	9/4/2021	5:40	10/5/2021	15:30	31.4	-	-	-	gallons/day
Collection Duration for 31-32nd	7/22/2024	42.20	40/5/2024	45.20	75.4	4274.7	40.2	760.6	
Trip	7/22/2021	13:38	10/5/2021	15:30	75.1	1371.7	18.3	768.6	gallons/day
Collection Duration for 33rd Trip	10/5/2021	15:30	11/13/2021	22:29	39.3	688.0	17.5	735.0	gallons/day
Collection Duration for 34th Trip	11/13/2021	22:29	12/14/2022	13:20	30.6	518.5	16.9	709.8	gallons/day
Collection Duration for 35th Trip	12/14/2022	13:20	1/13/2022	23:30	30.4	513.5	16.9	709.8	gallons/day
Collection Duration for 36th Trip	1/13/2022	23:30	2/18/2022	17:25	35.8	578.9	16.2	680.4	gallons/day
Collection Duration for 37th Trip	2/18/2022	17:25	4/4/2022	17:56	45.0	768.5	17.1	718.2	gallons/day
Collection Duration for 38th Trip	4/4/2022	17:56	5/11/2022	16:43	36.9	547.6	14.8	621.6	gallons/day
Collection Duration for 39th Trip	5/11/2022	16:43	6/7/2022	15:50	26.9	455.1	16.9	709.8	gallons/day
Collection Duration for 40th Trip	6/7/2022	15:50	7/14/2022	5:15	36.6	619.2	16.9	709.8	gallons/day
Collection Duration for 41st Trip	7/14/2022	5:15	8/5/2022	1:45	21.9	387.6	17.7	743.4	gallons/day
Collection Duration for 42nd Trip	8/5/2022	1:45	9/2/2022	14:35	28.5	514.9	18.1	760.2	gallons/day

Barrels of Oil Collected Per Day Since RRS Install

					Total	Net	RRS		
					Collection	Oil	Collection Rate	Collecti	on Rate
		Start Time		End Time	Duration	Collected	Of Oil	of	Oil
	Start Date	(hrs)	End Date	(hrs)	(Days)	(bbl)	(bbl/day)	(gallor	n/day)
Average collection to date less									
residual tank	4/12/2019	0:00	9/2/2022	14:35	1239.6	24,709.3	19.9	835.8	gallons/day
Total Collection to date	4/12/2019	0:00	9/2/2022	14:35	1239.6	25,871.3	20.9	877.8	gallons/day

Totals from Pumpoff 1-42

	Bbl	Gal
Net Oil collected	25,871.3	1,086,594.6
Total Oily fluids collected:	29,143.4	1,224,022.8

Appendix 1

MC20 Product Removal and Transportation with Completed Documentation

Pump of # 42





Attachment A: Dockside Transfer - Transfer of Liquid and Crude Oil in Accordance with Maintenance

Date: 9-5-ZZ
Time Transfer Ended: _____

	Column A	Column B	Column C	Column D	Column E
	Residual Tank Volume From Prior Operation (bbl)	On Board the Vessel Tank Strap Measurement Prior to Start of Offloading (bbl)	Onshore Frac Tank Strap Measurement after Offloading (bbl)	Volume of Fluid (Column C-A) (bbl)	% Difference Column (D-B)/D * 100
Tank 1	Ð	STBD 324.1	2829	282.9	
Tank 2	0	Port 241.8	280.9	280.9	
Tank 3				,	
Total	0	565.9	563.9	563.9	-0.4

Note: If the ?	6 Difference is gr	eater than 3% please attem	pt to explain the difference:	
Sign-off by:	USCG Rep	Signed Name:	, Printed Name	Date: 9-5-22
Sign-on by.		Signed Name:	Printed Name	Date: 7-5-22
	Cypress Rep	Signed Names	. Printed Name	_Date: 9-5-22
	NRC Rep	Signed Name:	, Printed Name	Date: 9-5-22

MC20 PO #42





Attachment B: Port Fourchon Shore Base On-Site Interim Tank Storage Measurements Before Offloading to Tank Trucks (Decanting of Water)

Date: 9-19-22	T:
	Time:
Time Measurements begin after Vessel Offle	pading in hours:

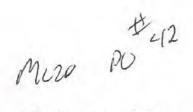
-	Column A Tank Strap from Offloading	Column B	Column C	Column D
	(Initially use Column C from Attach A and on subsequent decants use Column D from this form) bbl	Today's Interim Tank Strap Measurement bbl	Tank Strap Measurement after Decanting bbl	Oily Water Mixture Volume Column (B-C)
Tank 1	282.9 280.9	282.9	273.6	bbl
Tank 2	7819.9	280.9		9.3
Tank 3	200.	600.1	273.6	7.3
Total	563.9	563.9	547.2	16.6

Sign-off by	: USCG Rep (optiona	I) Signed Name:	, Printed Name	Date: 9-19-22
	Couvillion Rep	Signed Name:	Printed Name	Date: 9-19-72
	NRC Rep	Signed Name:	. Printed Name	Date: 9-19-22

Page 8 of 15









Couvillion Group, LLC

Attachment D: Decanted Water from Frac Tanks to Disposal Facility

55-91-9

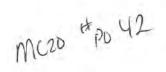
	Column A	Column B	Column C
	Beginning Tank Strap Measurement bbl	Decant and then Tank Strap Measurement bbl	Volume of oily water transferred to Disposal Facility Column B – Colum using Strap Measurement bbl
Tank 1	282.9		9.3
Tank 2	780.9	273.6 273.6	73
Tank 3			1.3

Residual Volume left in Tanks

	Strap Measurement bbl
Tank I	273.6
Tank 2	273.6
Tank 3	

Sign-off by: USCG Rep(Optional) Signed Name: Printed Name Couvillion Rep Signed Name: Printed Name NRC Rep Signed Name: Printed Name

Page 12 of 15







Attachment C: WASTE MANAGEMENT TRACKING FORM Residual Frac Tank Bottoms

Date: 9-19-22

Residual Volume left in Tanks

	Strap Measurement after Trucks Loaded in each tank bbls
Tank 1	273.6
Tank 2	273.6
Tank 3	

Sign-of	f by:USCG Rep (Optio	nal) Signed Name:	, Printed Name	Date: 9-19-22
	Couvillion Rep	Signed Name:	, Printed Name	Date: 9-19-27
	NRC Rep	Signed Name:	, Printed Name	Date 9-19-22

Page 10 of 15





Attachment C: WASTE MANAGEMENT TRACKING FORM

Oily Water Transportation and Net Crude Oil

Start Shipments Date: 9-20-22

Manifest Number	Transporter AOC	Truck Number	Date	Receiving Facility	Manifested Volume loaded from Port Fourchon Frac Tank into Truck (bbl from Strap)	Volume received by Buyer (bbl by Strap)	Net Crude Oil bbls (Acadiana Oil Ticket)
-	HUC	2001-01	9-20	a ACC	151.5		
		1	11 - 1				
		Total V	olumes Shi	ipped by Gallons/bbls			

End of Shipments date:			
Sign-off by: USCG Rep (Option	onal) Signed Name	. Printed Name	Date: 9 - 20-22
Couvillion Rep	Signed Name:	Printed Name	Date: 9-20-22
NRC Rep	Signed Name:	Printed Name	Date9-20-22_

Page 9 of 15





Attachment C: WASTE MANAGEMENT TRACKING FORM Residual Frac Tank Bottoms

Date: 9-20-22

Residual Volume left in Tanks

	Strap Measurement after Trucks Loaded in each tank bbls
Tank 1	122.5
Tank 2	273.6
Tank 3	

Sign-off by: USCG Rep (Optional) Signed Name:

Couvillion Rep

Signed Name:

Printed Name

Date: 9-20-22

Printed Name

Date: 9-20-22

Printed Name

Date: 9-20-22

Page 10 of 15





Attachment C: WASTE MANAGEMENT TRACKING FORM

Oily Water Transportation and Net Crude Oil

Start Shipments Date: 9-21-22

Manifest Number	Transporter	Truck Number	Date	Receiving Facility	Manifested Volume loaded from Port Fourchon Frac Tank into Truck (bbl from Strap)	Volume received by Buyer (bbl by Strap)	Net Crude Oil bbls (Acadiana Oil Ticket)
7		2001-01	4.01.55	ACC ACC	151.9		
71	AOC AOC	2001-03	7.21.22	ACC	153.7		
4	AOC	2001-02	9.21.22	HOC	75.0		
resi	dual ton	le	-				
5	AOC	2001-02	9.21.22	MOC	74.2		
6	AOC	1001-04	9.21.22	HOC	86.5		
			N				
		Total V	olumes Shir	pped by Gallons/bbls			

End of Shipments date:			
Sign-off by: USCG Rep (Option	onal) Signed Name	(\ Printed Name	Sate: 215E122
Couvillion Rep	Signed Name:	Printed Name	Date: 9.21.22
NRC Rep	Signed Name:	Printed Name	Date 9-21-22
	7		

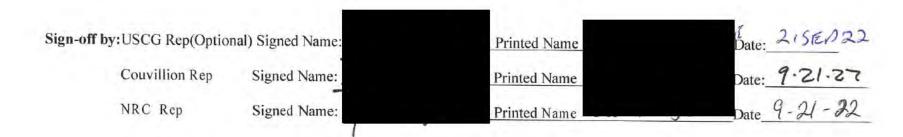
Page 9 of 15





Attachment C: WASTE MANAGEMENT TRACKING FORM <u>Transportation Tracking of Petroleum Contaminated Solids</u>

Transporter	Shipment Date	Receiving Facility	Manifested Volume (Yard)	Scaled Weight (Lb)	Comments (Box Numbers, etc.)
	10	Sol	ds		
	Transporter	Transporter Shipment Date	Transporter Shipment Date Receiving Facility	Transporter Shipment Date Receiving Facility Volume	Transporter Shipment Date Receiving Facility Volume Weight



Page 11 of 15

Doc #: Couv-O&M-Doc-00004

7/8/19

Couv-MC20-O&M-RPT-DOC-00065





Attachment C: WASTE MANAGEMENT TRACKING FORM Residual Frac Tank Bottoms

Date: 9-21-22

Residual Volume left in Tanks

	Strap Measurement after Trucks Loaded in each bbls	tank
Tank 1	6.8	
Tank 2	8.7	_
Tank 3	-	

Sign-off by: USCG Rep (Optional) Signed Name:

Couvillion Rep Signed Name:

NRC Rep Signed Name:

Printed Name

Printed Name

Date: 9-21-22

Printed Name

Date: 9-21-22

Page 10 of 15

GRODEL FURIVE A-83876, 9013, 9014 T-3841, L3841, 3843 STRAIGHT BILL OF LADING – SHORT FORM NOTICE: Shippers of hazardous materials must enter 24-hour emergency Bill of Lading No .. response telephone number under "Emergency Re Original-Not Negotiable Shipper No. Carrier No. FROM: Consignee Shipper Street Destination Origin Route: Vehicle No. 2001-0 Emergenc SCAC No. Shipping Linits Phone Number ackaging, Description of Articles +HM Weight (Subject to Correction)* Special Marks and Eye Rate or "If the shipment moves between two ports by a carrier by water, the law requires that the bill of lading state whether weight is "carrier's or shipper's weight." REMIT C.D.D. FEE PREPAID TOTAL ADDRESS Amt. S CHARGES: Note-Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. Subject to Section 7 of the conditions, if this shipment is to be delivered to the consignee without recourse on the consigner, the consigner shall sign the following statement. The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding The carrier shall not make delivery of this shipment without payment of freight and all other _ Der_ RECEIVED, subject to the classifications and lawfully filed tariffs in effect on the date of the jesus of this Bill of Lading, the property described above in apparent good order composition in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another effy, that every service to be performed increunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forch (1) in Uniform Freighthe terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions. Note: or da may

SHIPPER

applicable regulations of the U.S. Department of Transportation.

tion was made available and/or carrier has the U.S. Department of Transportation en or equivalent documentation in the vehicle. Property described above is received in go

1206 Lemaire St. • New Iberia, LA 70560 Lease Run Ticket 337-560-5573 24104 EMERGENCY RESPONSE CONTACT: ES&H 985-851-5055 Operator Lease Name To TERRELL TRADS Field BS&W LEVEL TANK TEMP INCHES INCHES tst 2nd GROSS GALLONS SERIAL NUMBERS OBSERVED OLD GRAVITY NEV PERCENT OF OIL BS & W OFFICE USE ONLY LOG GRAVITY CORR. TO 60 °F NUMBER GROSS BARRELS DELIVERY STATION FACTOR BS & W FACTOR X FACTOR NET BBLS. PER RUN TIC. 9900 DRIVER OPERATOR'S WITNESS 0430 I.D. PROPER HAZARD TOTAL NUMBER SHIPPING NAME CLASS BBLS UN PETROLEUM 3 111 1267 CRUDE OIL "THIS IS TO CERTIFY THAT THE ABOVE NAMED MATERIALS ARE PROPERLY

ACADIANA VIL & ENVIRONMENTAL

CORPORATION

TRANSPORT MANIFEST

CLASSIFIED, DESCRIBED, PACKAGED, MARKED, AND LABELED AND ARE IN PROPER CONDITION FOR TRANSPORTATION, ACCORDING TO THE APPLICABLE REGULATIONS OF THE APPLICAB

Shipper: Mike LeBlanc Jr. Date:

STRAIGHT BILL OF LADING - SHORT FORM A-B3876, 9013, 9014 T-3841, L3841, 3843

TO: Consignee	Arabona Orl Ca	(Name of Carrier)	/ //	Carrier I	No
Street	1825 Rues 11	Shippe	Courtille	1 Poch	
Destination	Beruch Zio Co	de 70842 Origin	554 D	rolley Be	roord
Route:		de 708 4 2 Origin	COAC	Zip Co	
No. Shipping +HM	Kind of Packaging, Description of Articles	Committees became ones al servatorious	SCAC	Phon	rgency Respi ie Number
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	101.	1 UDI			
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other by water, the	ISW recuires that the hill of lading IC O D. To.	C.O.D	C.O.D. FEE:	17	TOTAL
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by the shipper to be	not exceeding	The carrier shall not make deliver charges.	y of this shipment without p	payment of freight ar	nd all other
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	act to the electifications and build at a second	1	(Signature of Consigner)		
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	orachan	-	6/6	excl Tres
GAOGE FEE	OIL LEVEL	F	BS&W	LEVEL TANK
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UN 1267	PETROLEUM CRUDE OIL	3	111	146,93
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ACADIANA UIL & ENVIRONMENTAL

CLASSIFIED, DESCRIBED, PACKAGED, MARKED, AND LABELED AND ARE IN PROPER CONDITION FOR TRANSPORTATION, ACCORDING TO THE APPLICABLE REGULATIONS OF TRANSPORTATION.

Shipper: Mike LeBlanc Jr. Date:

	-Not Nego	rdous meterials mu er under "Emergen tiable	Cy Hespanse P	ad lana	ne of Carrier)	9-21-22 impay	Bill of Shippe	Lading N r No
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ACADIANA OIL & ENVIRONMENTAL CORPORATION

1206 Lemaire St. • New Iberia, LA 70560 337-560-5573 TRANSPORT MANIFEST

Lease Run Ticket

24503

EMERGENCY RESPONSE CONTACT:

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"THIS IS TO CERTIFY THAT THE ABOVE NAMED MATERIALS ARE PROPERLY CLASSIFIED, DESCRIBED, PACKAGED, MARKED, AND LABELED AND ARE IN PROPER CONDITION FOR COMPANY AND THE APPLICABLE REGULATIONS OF THE DEPARTMENT OF TRANSPORTATION".

Shipper: Mike LeBlanc Jr. Date

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tion was made available and/or carrier has the U.S. Department of Transportation e or equivalent documentation in the vehicle. Property described above is received in g

ADIANA OIL & ENTINONMENTAL TRANSPORT MANIFEST CORPORATION Lease Run Ticket 1206 Lemaire St. . New Iberia, LA 70560 337-560-5573 EMERGENCY RESPONSE CONTACT: ES&H 985-851-5055 C G Lease No. Lease Name Field BS&W LEVEL TANK TEMP INCHES INCHES 1st 2nd TANK NO. SIZE EST. GROSS GALLONS °F SERIAL NUMBERS OBSERVED TEMPERATURE PERCENT BS & W OF OIL oF. OFFICE USE ONLY LOG NUMBER GRAVITY CORR. TO 60 °F TIME AM PM TIME DEPARTED 2nd GROSS BARRELS DELIVERY X FACTOR TEMP, FACTOR BS & X FACTOR WFACTOR NET BBLS. -9900 9786 PER RUN TIC. DRIVER GROSS EZ OPERATOR'S WITNESS : TARE C 0 I.D. PROPER HAZARD PG TOTAL NUMBER SHIPPING NAME CLASS BBLS PETROLEUM CRUDE OIL UN 3 111 1267

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"THIS IS TO CERTIFY THAT THE ABOVE NAMED MATERIALS ARE PROPERLY CLASSIFIED, DESCRIBED, PACKAGED, MARKED, AND LABELED AND ARE IN PROPER CONDITION FOR TRANSPORTATION, ACCORDING TO THE APPLICABLE REGULATIONS OF THE APPLICABLE REGULATION OF THE A

Shipper: Mike LeBlanc Jr. Date: 9

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tion was made available and/or carrier has the U.S. Department of Transportation are or equivalent documentation in the vehicle. Property described above is received in go

Lease Run Ticket 1206 Lemaire St. . New Iberia, LA 70560 337-560-5573 EMERGENCY RESPONSE CONTACT: ES&H 985-851-5055 Lease No. C G Lease Name Field BS&W LEVEL INCHES INCHES TEMP 1st 2nd SIZE GROSS GALLONS °F SERIAL NUMBERS OBSERVED 90 TEMPERATURE PERCENT OF OIL BS & W OFFICE USE ONLY LOG GRAVITY CORR. NUMBER TIME ARRIVED 18 TIME DEPARTED 2nd AM GROSS BARRELS 70.5 DELIVERY FACTOR BS & W FACTOR TEMP. FACTOR X FACTOR NET BBLS. PER RUN TIC. 9900 9786 GROSS 0 OPERATOR'S WITNESS TARE 0 NET S I.D. PROPER HAZARD PG TOTAL NUMBER SHIPPING NAME CLASS BBLS UN PETROLEUM 68 99 3 111 1267 CRUDE OIL

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CORPORATION

TRANSPORT MANIFEST

"THIS IS TO CERTIFY THAT THE ABOVE NAMED MATERIALS ARE PROPERLY CLASSIFIED, DESCRIBED, PACKAGED, MARKED, AND LABELED AND ARE IN PROPER CONDITION FOR TRANSPORTATION, ACCORDING TO THE APPLICABLE REGULATIONS OF THE DEPARTMENT OF THANSPORTED NO.

Shipper: Mike LeBlanc Jr. Date:

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applicable regulations of the U.S. Department of Transportation according to the

Can her acknowledges receipt of package of any required placards. Carrier certifies from was made available and/or carrier into the U.S. Department of Transportation en or equivalent documentation in the vehicle. Property described above is received in go

CORPORATION 1206 Lemaire St. • New Iberia, LA 70560 Lease Run Ticket 337-560-5573 EMERGENCY RESPONSE CONTACT: ES& H Date 9-21-22 985-851-5055 Operator Couvillian CG Lease No. Lease Name Field Fourthon, LA BS&W LEVEL OIL LEVEL INCHES INCHES TEMP ist 2nd TANK NO SIZE EST. GROSS GALLONS SERIAL NUMBERS OBSERVED GRAVITY OLD NEW TEMPERATURE PERCENT OF OIL IN TANK BS & W a OFFICE USE ONLY LOG NUMBER GRAVITY CORR. TO 60 "F TIME ARRIVED AM PM Wint. TIME 2nd DEPARTED GROSS 86 BARRELS DELIVERY BERWICK LA FACTOR 1904 BS & W FACTOR TEMP, FACTOR X FACTOR NET BBLS. PER RUN TIC. 904 67,9 8000 DRIVER GROSS OPE N TARE C 200 13hrs NET I.D. PROPER HAZARD PG TOTAL NUMBER SHIPPING NAME CLASS BBLS UN PETROLEUM 3 111 1267 CRUDE OIL "THIS IS TO CERTIFY THAT THE ABOVE NAMED MATERIALS ARE PROPERLY

TRANSPORT MANIFEST

CLASSIFIED, DESCRIBED, PACKAGED, MARKED, AND LABELED AND ARE IN PROPER CONDITION FOR TRANSPORTATION, ACCORDING TO THE APPLICABLE REGULATIONS OF THE DEPARTMENT FRANCE PROTOCOS "

Shipper: Mike LeBlanc Jr. Date:

Appendix II

NRC Waste Handling Documentation

MC20 Pary Off #42



SAFETY MANAGEMENT SYSTEM



Job Hazard Analysis

			SUMMARY OF POTENTIAL HAZA	ARDS (Ch	eck applicable)	
☐ Heavy or a movement	wkward lifting /		Pinch Points or caught betwee	en	⊠ Working and wa	alking surfaces; slip, trip, fall
☐ New / Inex	perienced employe	ees	Spill / containment			ironment
Struck by o	r crush hazard		Noise levels (>85 dBA)			
	liquids, vapors, wa	iste	Elevated surfaces / Fall / Ladd	ers		
			APPLICABLE REGULATION	/ SOPS	/ ALERTS	
SMS 19.2 V	acuum Trucks					
		MII	NIMUM PERSONAL PROTECTIVE EC	QUIPMEN	IT (Check applicable)	
Level A	☐ Hard Hat		☐ High Visibility Vest	Lea	ther Steel Toe Boots	PFD / Work vest
Level B	Safety Glass	es	□ Long Sleeves / Coveralls	☐ Dis	posable boot covers	
Level C	Face Shield	1	Chemical protective clothing	☐ Ned	oprene Steel Toe Boots	
∠ Level D	Hearing Prot	tection	Respirator:	⊠ Glo	ves:	
			JOB HAZARD AI	NALYSIS		
	b Steps		Potential Hazards		The state of the s	asures / Special PPE
	bb Meetings vior Based Safety	op or • Pe ha:	rsonnel do not understand the erational plan, relevant hazards their roles/responsibilities rsonnel do not stop work when zards are identified rsonnel do not report injuries, esses, near misses or incidents		to all involved personne will be encouraged to a any project details Immediate supervisor w Authority and Responsi supervisor if they disco	ted to report any injuries, illnesses,
	urvey and ment Set-up	• Equ	even working surfaces and trip gards. Jipment not certified, not tested damaged proper set-up due to untrained unqualified personnel	 Inspect site for correctable walking surface hazards. F correct unsafe conditions. Position equipment and h away from travel paths. Identify "no-go" areas. All equipment will be inspected for current certification testing and serviceable working condition prior to wo Personnel will be pre-selected to perform tasks based 		ons. Position equipment and hoses s. Identify "no-go" areas. spected for current certifications, e working condition prior to work
3. Vehicl	e movements	stri veh • Vel mo	rsonnel, equipment or hoses uck or crushed by moving nicles or equipment nicles not inspected prior to vements. Unsafe for travel. secured items create dropped ect or road hazards.	Verified competency Ground guides will be used for equipment moveme Non-essential personnel will clear the travel path. path will be confirmed as clear prior to movement Vehicles will be inspected by drivers prior to travel a after travel for potential damage. Vehicles will be inspected to ensure that there are not the process and that leads are secured preparty.		el will clear the travel path. Travel as clear prior to movements. ed by drivers prior to travel and al damage.
	ng Vessel and ng near water	Per cauPer durPer	sonnel struck by thrown lines or light in "line of fire". sonnel pinched or crushed ring vessel movements. sonnel fall into the water. Man erboard.		When tossing the mooring to fall on the ground are catch mooring lines from the wesse other body parts from the bits on the dock. Never work alone. All peare required to wear a	ng lines to the shore allow the lines and pick them up. Do not attempt to me the M/V. If, keep hands, fingers, arms, and allow between the mooring line and the resonnel within 5' of the docks edge USCG approved PFD. Always discuss dures prior to work. Have life ring
5. Conne	cting hoses	wh Per oth dur hos	sonnel crushed or pinched ile connecting transfer hoses. sonnel suffer back strain or er ergonomic related injuries ing connections or moving ses oftrip/fall hazards while working		Identify, communicate ar including cam-lock conr parts or equipment Transfer hoses can be h hoses employees shall u including keeping your as lifting with your knee	nd avoid all crush/pinch points: nections, vehicles and other moving leavy and when handling these use proper ergonomic practices back as straight as possible as well



SAFETY MANAGEMENT SYSTEM



Job Hazard Analysis

Job Steps	Potential Hazards	Preventive Measures / Special PPE
		awareness when walking in the dock area. Try to run hoses in an area that is out of the normal walking path and go around if possible
6. Working in potentially hazardous atmospheres	Personnel exposed to hazards related to hazardous atmospheres. Ignition sources create potential for explosive conditions Personnel not equipped to suppress incipient fire	 Calibrated multi-gas meters/detectors will be used to confire that LEL's, CO and other gases are within safe range for pumping and transfer operations. Operations will transfer operations will stop immediately if LEL's or Carbon Monoxide levels become elevated A protective distance of 100' outside shoreside transfer will be identified, and marked with caution tape and warning signs, to prohibit smoking, sparks and any potential source of ignition within the transfer area perimeter. The M/V will suspend all similar activities for the duration of transfer operations. Fire extinguishers will be placed at the transfer manifolds, compressors, vessel and any other areas of potential ignition.
7. Energizing pneumatic equipment	Personnel injured when struck by hoses or pressure during hose connection or fitting failure. Air leaks or blowout causing pressure related injuries. Hearing loss/injury due to noise levels above 85 decibels	 All pressurized hoses will have whip checks and safety clips installed prior to energizing. All pneumatic hoses will be inspected prior to use. Pumping operations will be stopped immediately if leaks are detected during operations. Defective hoses will be replaced with new hoses/whips. Hearing protection will be worn in all areas where highnoise machinery and equipment is being operated.
Transfer of recovered crude oil	Personnel contacted by crude oil spray or environmental release. Overfilling tank resulting in spills Personnel overcome by potentially hazardous vapors	 All transfer hoses used will be inspected, certified and tester prior to use. They will be secured with safety clips and wrapped with absorbent pads and duct tape. Polypropylen line will be used as an added retention measure. Personne will wear Level D PPE and increase protection as appropriate. Spill control kits/supplies will be available on site. The DOI Declaration of Inspection will be completed prior to operations. Prior to transfer the amount of product that can be accepted will be calculated and the PIC will ensure that there is ample room to handle the transferred product. Crude oil is a mixture of various hydrocarbons. Among ther can be benzene, hydrogen sulfide, and other chemicals. There will be a properly calibrated and bump tested 4-gas meter on site during transfer to ensure vapors aren't present. All work will stop if hazardous gasses are detected. PPE will be upgraded according to the concentration of hazards detected. If personnel will work at heights above 6': fall protection will be worn and a rescue plan will be in place. Fire extinguishers will be placed at the transfer manifolds, compressors, vessel and any other areas of potential ignition.
9. Transfer of oil into transporter	 Personnel contacted by crude oil spray or environmental release Overfilling transportation vessel resulting in spills Personnel overcome by potentially hazardous vapors Fall hazards present if personnel are working above 6 feet 	 All transfer hoses used will be inspected, certified and tester prior to use. They will be secured with safety clips and wrapped with absorbent pads and duct tape. Polypropylend line will be used as an added retention measure. Personne will wear Level D PPE and increase protection as appropriate. Spill control kits/supplies will be available on site. Prior to transfer the amount of product that can be accepted will be calculated and the PIC will ensure that there is ample room to handle the transferred product. Crude oil is a mixture of various hydrocarbons. Among then can be benzene, hydrogen sulfide, and other chemicals. There will be a properly calibrated and bump tested 4-gas meter on site during transfer to ensure vapors aren't present. All work will stop if hazardous gasses are



SAFETY MANAGEMENT SYSTEM

Revision: 08/2015

Job Hazard Analysis

O Job Steps	Potential Hazards	Preventive Measures / Special PPE
		detected. PPE will be upgraded according to the concentration of hazards detected. If personnel will work at heights above 6': fall protection will be wom and a rescue plan will be in place. Fire extinguishers will be placed at the transfer manifolds, compressors, vessel and any other areas of potential ignition.
Prolonged exposure to elements (Heat Stress)	Inadequate hydration Extended work periods without rest resulting in heat stress	 Personnel will be encouraged to hydrate frequently. Water t sports drink ratio will be 3:1 (1 sports drink to 3 waters consumed). Work to rest schedules will be determined based on the ambient temperature, acclimatization of personnel and work being performed. Heat stress potential and signs/symptoms will be discussed at all safety meetings, tallgate meetings and during breaks. Personnel will be encouraged to self-report any early symptoms of heat stress. All personnel will be advised that stop work authority applies to potential heat stress symptoms they may be experiencing, (or that they suspect with coworkers).
11. Break time	 Potential for ingestion of petroleum product or other contaminants. Fire hazards from unrestricted smoking Direct sun reduces recovery time for workers during breaks Inadequate water 	 Personnel will wash hands before smoking, eating, drinking or any other activity where contaminants might be ingested. This hazard will be stressed in break areas. Only smoke in designated areas. Ensure that break areas have adequate shade and cooling potential for personnel Personnel are more likely to hydrate when cool water is available. Ensure an adequate supply and include sports drinks with electrolytes to be consumed sparingly.
12. Decontaminate Personnel	Potential for secondary contamination by absorption, injection, or Ingestion	 Follow decontamination plan for clothing removal and disposal when protective outerwear is required and becomes contaminated. Only use safety scissors (never knives) to cut Tyvek from personnel. Ensure that workers wash hands and face thoroughly.
NRC INCIDENT REPORTING POLICY	First Aid OSHA recordable Illness/Injury Near Miss Equipment/Vehicle Damage	 NRC employees and subcontractors are required to immediately report all incidents to their supervisor. The immediate supervisor will immediately report the incident to the site safety professional, HSEQ Manager, and Project Manager. As soon as possible the affected employee will complete the required form, if an injury then the first report of injury; if near miss, then a near miss / safety suggestion form will be completed. The supervisor will complete a root cause analysis of all reported incidents and submit to the HSEQ manager within 8 hours of an incident. Determination will be made regarding need for post-incident drug and alcohol testing based on NRC policy. Contact HSEQ Manager for proper USCG reports, if needed and what report is needed.

REVIEW

Development Team	Position/Title	Reviewed By	Position/Title	Date
				7/27/20
			pm	9-5-22

ACKNOWLEDGEMENT

Employee Name	Signature	Date
		9/5/82
		0-5-22

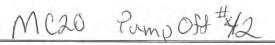


SAFETY MANAGEMENT SYSTEM



Job Hazard Analysis

	9/5/22
	9/5/20
8	





SAFETY IT'S THE WAY TO GO

Site Specific Safety Plan

Project Name: MC20 Recovered Crude Oil Transfer

Revision: 08/2019

Jesse Bridges (985) 502-7190				
David Kendall (281) 914-6577				
Ray Mc Coy (631) 236-2512				
Darryl Prout (985) 396-4518				
Peter Brause, CSP (310) 387-2639				
Ken Koppler, CIH, CSP (971) 285-0450				
Lady of the Sea Hospital: Galliano, LA (985) 632-6401				

□ Land Emergency Response □ Marine Emergency Response □ Land Service ☑ Marine Service

SITE DESCRIPTION / WORK SUMMARY

The site is the Port Fourchon Facility: 554 Dudley Bernard Rd. Port Fourchon, LA. 70357 (985) 396-4518

NRC will facilitate removing recovered crude oil from the well located at MC20 project. The M/V ☑ B has been collecting crude oil from the location and storing it on Marine Portable Tanks (MPTs) located on her deck. The vessel will be moored to the dock at the above location and transfer the recovered crude from the MPTs on her deck to double walled frac tanks on the dockside.

Once the frac tanks on the Port Fourchon docks are ready for transfer the crude will then be transferred into bulk transporter trailers to be sent to its final destination.

SCOPE OF WORK

The M/V ______ will send a 100′ section of 3-inch petroleum duty hose to the dock where it will be connected to the hoses leading to a properly rated and tested manifold. The manifold has one inlet and three outlets. Each outlet will be fitted with a 3-inch transfer hose and affixed to the frac tanks. Once the connections are secured and the declaration of inspection (DOI) is complete, the vessel will transfer the crude oil in her tanks using a 4-inch pneumatic diaphragm pump. As the frac tanks near capacity the dockside operator will open the next manifold valve and close the active one. This process will continue until all three frac tanks are at capacity. Once the transfer is complete a 1-inch airline with the proper fitting will be given to the M/V's crew to send compressed air up the hose to "blow down" any residual product left in the hoses to ensure no product is spilled when the hoses are disconnected.

After the crude oil sits in the frac tank at the Port Fourchon Dock for 12 to 24 hours the crude oil will be pumped using a 3-inch pneumatic diaphragm pump to transport trailers to be sent to final destination.



SAFETY IT'S THE WAY TO GO!

Revision: 08/2019

Site Specific Safety Plan
Project Name: MC20 Recovered Crude Oil Transfer

EQUIPMENT

- Air Compressor (One aboard the M/V \underline{BB} One on Port Fourchon Facility Properties)
- 4-inch pneumatic diaphragm pumps
- Petroleum Duty transfer hoses rated and inspected accordingly
- Safety Clips for Cam-lock connections and Chicago fittings
- Containment pans for diaphragm pumps and each hose connection (on the deck of the M/V as well as the Port Fourchon Facility Dock)
- Sorbent pads / Polly to wrap around each hose connection as spill prevention
- Whip Checks for each air line connection coming from the air compressor
- Intrinsically safe handheld VHF radios (Means of Communication between PIC of vessel and PIC of dock)
- Supplied Air Breathing System

ATTACHMENTS

Attachment	TRITLE	Attachment	100742
Α	Safety Data Sheets	F	Diagram of dock layout
В	SMS 8.1.5 Daily Safety Meeting form - Maritime		
С	SMS 13.2 Respiratory Protection		
D	Incident / Near Miss / RCA		
E	DOI		



Site Specific Safety Plan
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CHEMICAL INFORMATION

CHEMICAL / CAS	CHEMICAL PROPERTIES	EXPOSURE LIMITS Action Levels	ROUTES OF ENTRY	May include eye, nose and throat irritation, digestive tract, nausea, vomiting, diarrhea, headache, drowsiness, dizziness, loss of coordination, disorientation and fatigue	
Crude Oil	VP (mmHg): 2.6-6.2lbs @ 100F VD (Air=1): >1 BP: -54 to 1100F SG: 0.8939 PV: 1-50 FP: <24 F Estimated LEL: 1.1 UEL: 7.3 Appearance; thick light yellow to dark black	Oil Mist, If Generated ACGIH TWA: 5mg/m3 STEL: 10mg/m3 OSHA TWA: 5mg/m3 NIOSH IDLH:2500mg/m3	X Inhalation X Ingestion X Contact		
Hydrogen Sulfide	Strong rotten egg odor at low levels, rapidly deadens the sense of smell at higher concentrations. Highly flammable - LEL is 4.3%	10 PPM – OSHA PEL Above 10 PPM – Level B PPE required in work area. IDLH = 100 PPM	X Inhalation Ingestion Absorption Contact	Headache, Nausea, irritation to the eyes, nose, or throat. Death if exposed to high concentrations of Hydrogen Sulfide.	
Benzene / 71-43-2	S.G. = 0.88 FP = 12 F LEL: 1.2% UEL = 7.8%	ACGIH TWA: 0.5 ppm OSHA TWA: 1 ppm IDLH: 500ppm	X Inhalation X Ingestion X Absorption X Contact	Irritation to the eyes, skin, nose and respiratory system. Dizziness, headache, nausea, staggered gait; bone marrow depressive	



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PERSONAL PROTECTIVE EQUIPMENT

D D	N/A N/A	Level D PPE with the addition of an approved PFD when working within 5' of the docks edge
1 2	N/A	
D		Level D PPE with the addition of an approved PFD when working within 5' of the docks edge
	N/A	Level D PPE with the addition of an approved PFD when working within 5' of the docks edge
D	Level C or Level B may be needed based on air monitoring results.	Level D PPE (unless readings indicate a need to upgrade PPE to level C respiratory protection) with the addition of an approved PFD when working within 5' of docks edge. If H2S is detected above 5 ppm Level B PPE (supplied air respirators) will be used. Operations will be suspended if H2S levels reach 100ppm.
		B may be needed based on air monitoring

RESPIRATORY PROTECTION PLAN

The NRC SMS Procedure 13.2 for Respiratory Protection is provided in **Attachment C**.



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AIR MONITORING / ACTION LEVELS

Chemical Hazard	Instrument	Action Level	Action
Oxygen (O₂)	4-gas	<19.5% or >23.5%	 Stop work, determine source of hazard and apply engineering control (ventilation) until reading can be brought to 21% +/- 1%.
Carbon Monoxide (CO)	4-gas	25 ppm	 Stop work, determine source of hazard and apply engineering controls. Upgrade PPE as necessary.
Lower Explosion Limit (LEL)	4-gas	>10%	 Stop work, determine source of hazard and apply engineering control (ventilation) until reading can be brought below 10%.
Hydrogen Sulfide (H2S)	4-gas	10 ppm >10 ppm	OSHA PELSCBA / Supplied Air Respiratory Protection
PID/VOC	PID	10 - 750 ppm >750	 Don level C PPE APR w/OV cartridge (Check Benzene Levels, if Benzene levels are below 0.5 Respiratory protection may be reduced SCBA / Supplied Air Respiratory Protection
Benzene	Colorimetric Tube	<0.5 PPM 0.5 – 25 PPM >25 PPM	 No Respiratory requirement Full Face APR with OV Cartridges SCBA / Supplied Air Respiratory Protection



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ACTIVITY HAZARD ANALYSIS / SUMMARY

ITEM	HAZARD	PREVENTION
Behavioral Based Safety	Hazard Identification Stop Work Authority Near Miss	 Immediate supervisor will remind their crews of their Authority and Responsibility to Stop work and contact their supervisor if they discover a hazard Safety officer to coordinate with work crew safety leads Daily HASP / Tailgate meetings will be conducted with the crew. Report all near misses, at risk conditions on the job site, or at-risk actions by crew member. Discuss all reported near misses during the post job briefing and during Daily HASP / Tailgate meetings.
Mooring M/V	Struck by Pinched by Fall into water	 When tossing the mooring lines to the shore allow the lines to fall on the ground and pick them up. Do not attempt to catch mooring lines from the M/V. When mooring the vessel, keep hands, fingers, arms, and all other body parts from between the mooring line and the bits on the dock. Never perform this task alone and all personnel within 5' of the docks edge are required to wear a USCG approved PFD.
Connecting Hoses	Caught / pinched by Back / muscle strain Slip / Trip / Fall	 Identify, communicate, and avoid all pinch / crush points including, but not limited to - cam lock connections, trucks backing / parking, other mobile equipment on the dock. Transfer hoses can be heavy and when handling these hoses employees shall use proper ergonomic practices including keeping your back as straight as possible as well as lifting with your knees and not your back. Observe good housekeeping and maintain situational awareness when walking in the dock area. Try to run hoses in an area that is out of the normal walking path and go around if possible.
Energizing pneumatic equipment	Hose whipping Air Leak Noise levels above 85 decibels	 Ensure all connections have whip checks and safety clips in place prior to energizing air lines. If hissing is hear there is a leak in the line and the compressor should be de-energized and the leaking hoses / connections should be replaced prior to continuing operation. Hearing protection required for pneumatic equipment.
Transfer of recovered crude oil	Spill / spray crude oil on employee. Overfilling of frac tank Overcome by vapors Hydrogen Sulfide (H2S) Detected during transfer.	 All hose connections shall be secured with safety clips, then wrapped in sorbent pads and duct tape and rope to prevent spills or contamination of individuals. There will be no hose connections over water and all connections will also be in secondary containment. Prior to transfer the amount of product that can be accepted will be calculated and the PIC of the dock facility will ensure that there is ample room to handle the transferred product. Crude oil is a mixture of all sorts of hydrocarbons. Among them can be benzene, hydrogen sulfide, and other chemicals. There will be a properly calibrated and bump tested 4-gas meter with PID on site during transfer to ensure vapors aren't present. If vapors become an issue, all work will stop and PPE will be upgraded according to the chart found on page 5 of this document. All personnel involved in the transfer process will be wearing a personal H2S Detector worn in their breathing zone. If H2S is detected above 5 PPM, the operations will stop, and all essential personnel will don their Supplied Air Respiratory Protection (SAR) and evacuate all non-essential





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ITEM	HAZARD	PREVENTION
		 personnel from the area during the transfer. There will be support personnel upwind with SAR capabilities on site for rescue purposes during this operation. If H2S is detected above the IDLH (100 PPM) then stop work authority will be used, all personnel will evacuate the work area and move to an upwind, safe location until the levels are below 100 PPM.
Transfer of oil into transporter	Spill / spray crude oil on employee. Overfilling of frac tank Overcome by vapors	 All hose connections shall be secured with safety clips, then wrapped in sorbent pads and duct tape and rope to prevent spills or contamination of individuals. There will be no hose connections over water and all connections will also be in secondary containment. Prior to transfer the amount of product that can be accepted will be calculated and the PIC of the dock facility will ensure that there is ample room to handle the transferred product. Crude oil is a mixture of all sorts of hydrocarbons. Among them can be benzene, hydrogen sulfide, and other chemicals. There will be a properly calibrated and bump tested 4-gas meter with PID on site during transfer to ensure vapors aren't present. If vapors become an issue, all work will stop and PPE will be upgraded according to the chart found on page 5 of this document.
Incident Reporting	First Aid OSHA Recordable Medical Only Near Miss	 Employees immediately report all incidents to their immediate supervisor. The immediate supervisor will immediately report the incident to the site safety professional, HSEQ Manager, and Project Manager. As soon as possible the affected employee will complete the required form, if an injury then the first report of injury; if near miss, then a near miss / safety suggestion form will be completed. The supervisor will complete a root cause analysis of all reported incidents and submit to the HSEQ manager within 8 hours of an incident. Determination will be made regarding need for post-incident drug and alcohol testing based on NRC policy. Contact HSEQ Manager for proper USCG reports, if needed and what report is needed.
Prolonged exposure to elements	Dehydration Hypothermia Hyperthermia	 If Tyvek is not required, long sleeve shirts should be worn to cover skin. Rain suits should be worn in lieu of chemical protective coveralls during inclement weather Drink plenty of fluids. Appropriate clothing should be worn based on weather conditions.
Break time	Ingestion Fire	 Thoroughly wash hands before eating, drinking, smoking, or applying sun screen Do not smoke near petroleum products (ONLY IN DESIGNATED AREA)
Decontaminate Personnel	Absorption Contamination	 Follow decontamination plan for clothing removal / disposal. Do not use knives to cut PPE / use safety scissors Wash hands and face thoroughly.
COVID 19 Protocol	Personnel infected with COVID-19 could spread it to others in the work area.	 Employees will follow all CDC, Local, State, and Federal guidance regarding Social Distancing. All personnel must remain at least 6' from one another on the worksite at all times. Only personnel essential to the operation will be allowed in the work area. If any employee is displaying symptoms related to COVID19





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ITEM	HAZARD	PREVENTION
		 they will be removed from work and follow the US Ecology / NRC return to work guidance issued by corporate. The Symptoms in question are Fever (Above 100.4F, Dry Cough, and Shortness of breath) Dockside personnel will not interact with personnel aboard the M/V during transfer operations. If an emergency were to arise where dockside personnel need to board the M/V they will be wearing proper PPE and will decontaminate anything touched while on board the vessel. All trucks, handles, switches, controls, doors, etc. (frequently touched items) will be decontaminated frequently, at minimum prior to use and once the work task is complete. All personnel on site will have adequate supplies to decontaminate frequently touched surfaces such as disinfectant wipes, hand sanitizer, and a cleaner approved for use as a virucide. All breaks will be taken individually, or employees will set themselves at least 6 feet away from one another to accomplish the social distancing demand due to the current pandemic.
NRC INCIDENT REPORTING POLICY	 First Aid OSHA recordable Illness/Injury Near Miss Equipment/Vehicle Damage 	 NRC employees and subcontractors are required to immediately report all incidents to their supervisor. The immediate supervisor will immediately report the incident to the site safety professional, HSEQ Manager, and Project Manager. As soon as possible the affected employee will complete the required form, if an injury then the first report of injury; if near miss, then a near miss / safety suggestion form will be completed. The supervisor will complete a root cause analysis of all reported incidents and submit to the HSEQ manager within 8 hours of an incident. Determination will be made regarding need for post-incident drug and alcohol testing based on NRC policy. Contact HSEQ Manager for proper USCG reports, if needed and what report is needed.
		•
		•
		•
		•
		•



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MINIMUM SAFETY EQUIPMENT REQUIRED

1	Eyewash	1	Decon Pool / Supplies See itemization list under Decon		Tinted faceshield, leathers, gauntlets, hot-work cutting gear
1	First Aid Kit	1	Fire Extinguisher, Dry Chemical		Barricades / Traffic Cones / Delineators / Banner Tape
		Ħ	Fire Extinguisher, Water	1	Ladders
	Harnesses		Lanyards / rope		Confined space entry equipment
1	PPE (Task specific)				

TRAINING / DOCUMENTATION REQUIREMENTS

1	HAZWOPER 40	1	Hazwoper Supervisor	1	Current 8 Hour Refresher
1	First Aid /CPR		Confined Space Supervisor	1	Current Medical Fitness For Duty
	NRC Confined Space Entrant				NRC Confined Space Rescue
1	API Safe Rigging Practices		1	Documentation of compliance with Drug Free Work Place	
	Competent Fire Wat	tch Desig	gnated Personnel	1-46	Qualified Pressure Washer Operator





Site Specific Safety Plan
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DECONTAMINATION AND DISPOSAL

DECONTAMINAT	TION EQUIPMENT
 ✓ Visqueen on Ground ✓ Carpet on Ground ✓ Wooden Pallets ✓ Decon Pool / wash boots 	 ☐ Rags for cleaning - wiping ☐ Labeled Drums for disposal items ☐ Chairs to sit on for PPE removal ☐ Plastic zip-lock bags for personal sample pumps
☐ Boot brushes ☐ Decon Pool Rinse Boots ☐ Respirator wash bucket ☐ Respirator rinse bucket	 ✓ Water to wash face / hands ✓ Decontamination Assistant ✓ Barrier stands ✓ Caution tape to designate decon area
 ☑ Drying stands or platforms for respirators after washing ☑ Wipe rags to clean respirators 	Shower
	NTAMINATION PLAN
 Unzip suit / pull off hood Roll down suit / inside out and place into labeled contain Remove respirator Use wipes to clean Store respirators in plastic bags after drying Remove inner gloves PPE and debris will be bagged, accounted for, and bulked Store respirators in individual plastic bags with employee 	terior of PPE prior to dry decon (stage 1 decon) rs removed to waste bin at end of each shift d leather outer gloves may be reuse if still in good condition) er d into the applicable waste bin or container rames
	GEMENT PLAN
Contaminated disposable PPE & debris from operation sh	all be placed in an approved container



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SITE LAYOUT

Sketch the work area or attach a schematic drawing. Please include the following:

Evacuation Route	Control Entry Point	Exclusion Zone (red security tape)
Decontamination Point (red tape)	Support Zone (yellow caution tape)	Fire Extinguishers
Eyewash / Showers		

See Facility Map



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EMERGENCY MEDICAL TREATMENT AND FIRST AID

TYPE CONTACT	FIRST AID			
Eyes	 Flush each eye continuously for 15 minutes Tilt head to side to ensure liquid runs onto floor not other eye Refer to EMT for evaluation 			
Skin	 Remove contaminated clothing immediately Wash skin continuously for 15 minutes Refer to physician if redness, swelling, or pain persists after washing 			
Not Breathing	 Call 911 Remove to fresh air immediately if respiratory distress develops Begin CPR until EMT arrives 			
Ingestion	 Aspiration hazard Do not induce vomiting Do not give anything by mouth 			

ACCIDENT REPORTING

FIRST AID INJURIES REQUIRING MEDICAL TREATMENT VEHICLE ACCIDENT NEAR MISS	Employees immediately report all accidents or incidents to the Site Project Manager / Safety Officer Site Project Supervisor will immediately notify the NRC Project Manager via cell phone. If unable to reach the Project Manager, call the NRC Safety Manager. If you get a voice mail; call their cell phones NRC Safety Manager will provide employee disposition guidelines and coordinate an accident investigation either by himself or Project Supervisor NRC Project Manager will relay information to Project Site Superintendent

EMERGENCY RESPONSE PLAN

ELEMENT	LOCATION, SPECIFICATION OR REASON FOR USE		
NEAREST HOSPITAL	Our Lady of the Sea General Hospital, (985) 632-6401 200 W 134th PI, Cut Off, LA 70345		
NEAREST PHONE	Port Fourchon Facility Phone		
FIRST AID KIT	Deck of M/V Brandon Bordelon and the M/V Connor Bordelon/ Fourchon Dock side as well		
FIRE EXTINGUISHER	Deck of the vessel discharging product Port Fourchon Facility Dock		
Stage Portable Eyewash Station in Support Zone			
EVACUATION ROUTE / MEETING POINT	See site map and follow established emergency procedure		





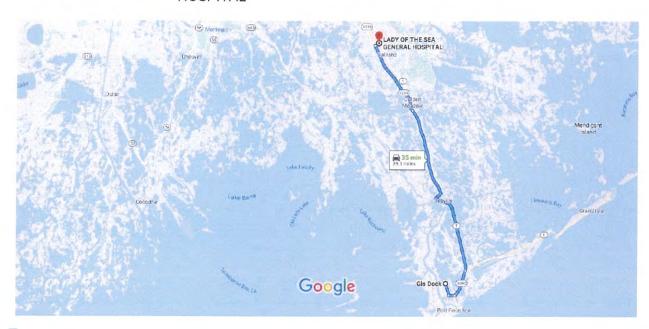
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Hospital Route

Google Maps

Gis Dock to LADY OF THE SEA GENERAL Drive 28.1 miles, 35 min HOSPITAL





via LA-1 and LA-3235

35 min

Fastest route, the usual traffic

28.1 miles

▲ This route has restricted usage or private roads.





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SAFETY PLAN APPROVAL

Site Safety Officer O 8356 (O RICIGE)	Date 9-5-2022
Site Safety Officer Jesse B Ridges	9-5-9-22

ACKNOWLEDGMENTS (signed by all NRC site personnel) I have read and understand the topics outlined on all pages of this HASP and will follow all the required safety rules. **I am aware that I am to sign in at the beginning of the shift and sign out at the end of my shift on the Daily Safety Meeting form. I must notify the on site supervisor of any injury /accident/ near miss that I had or observed during my shift** I understand that I have the right to stand down for Safety and report any potential hazards to the NRC Site Supervisor. After an injury/accident/near miss is reported, the Site Supervisor must call the H & S Manager at Date **Print Name** Signature 9/5/22

PORT FOURCHEW /		DATE TRANSFER OPERATIONS STARTS
Brandon Bond		01-5-22 /0600
An oil transfer operation may r	not commence to or from a ve	ssel unless the following requirements are met and agreed upor
by the respective transferring a	nd receiving persons in charg	е.
ersons in charge indicate by a	check (V), in the appropriate	spaces, that the specific requirement has been met.
/ESSEL		FACILITY
A. The mooring lings ar	e adequate for all anticipated	conditions AB
B. Cargo hoses and/or lo	pading arms are long enough t	for intended use
VT_C. Cargo hoses are adeq	uately supported to prevent u	ndue strain on the couplings
D. The transfer system is	s properly lined up for discha	rging or receiving oil. (Additional checks shall
be performed each tin	ne a valve is repositioned.)	23
K E. Each flange connection	on on the cargo system not be	ing used during the transfer operation is blanked
or shut off		.,
F. The cargo hoses and/o	or loading arms are connected	to the manifolds using gaskets and a bolt in
every other hole, (mir	nimum of 4 bolts). Exception:	Tanks without fixed loading systems per waiver
from the Captain of the	ne Port	<u> </u>
G. The overboard or sea	suction valves are sealed or l	ashed in the closed position
 H. Adequate spill contain 	nments have been provided for	or couplings 08
I. All scuppers or other of	overboard drains are closed or	plugged
J. A communications sys	stem is provided between the	facility and the vessel
K. Emergency shutdown	system is available and open	able
L. Communication proce	edures are established and und	facility and the vessel
		ind on duty at the terminal and vessel control stations <u> </u>
		who fluently speaks the language of the terminal control
station		<u>J\$</u>
		rements have been met and that the hose has no loose
covers, kinks, bulges,	soft spots or gouges, cuts and	I slashes which penetrate the hose reinforcement and
that hoses are marked	for identification and test dat	a is maintained in a test log 0,3
		areas and manifold areas is provided
 Q. Persons in charge hav 	e held a conference to assure	the mutual understanding of the following transfer operations:
Product identity to	be transferred	035 88
.2. Sequence of transfe	er operation	<u>BB</u>
1 3. Transfer rate of flo	W=====================================	2B
4. Name or title and le	ocation of each person partici	pating in the transfer operation
., .5. Particulars of the tr	ansferring and receiving syste	ems
6. Starting, stripping,	topping and shutdown have b	een discussed and understood
	ares including notification, co	ontainment and cleanup of spills
	angements	JB
9. Notification before	leaving stations	<u> </u>
he following items are to be fi		
I. Warning signs and	read warning signals (25.25.5	20)
2. Repair work author		iu).
3. Boiler and galley fi		
4. Fires or open flame		
A Sale smoking space	(() () () () () () () () () (

PERSON IN CHARGE OF			PERSON IN CHARGE OF		
VESSEL	Time 0600	Date 9-5-22_	FACILITY	Time O(600	Date 9-5-22

The operator of each facility and the operator of each vessel shall retain a signed copy for at least a month.



DECLARATION	OF INSPECTION I	PRIOR TO BUI	LK CARGO TR	RANSFER	
Date: 9-5-22	Location: GISO	ock			
Facility/Vehicle Number	r: GIS DOCK		Start Time	End Time	
Vessel Name: Brand		06:00			
Vessel Official Number:		Vessel Cap	Vessel Capacity (Total) (bbls):		
Product Transferred: Crule		Est. Transf	Est. Transfer Volume (bbls):		
Not	e For Emergency Notificat	ion Discharge amou	nts (Gallons):		
Average most probable:					
Maximum most probable:					
Worst case discharge:				**	

The following list refers to requirements set forth in detail in 33 CFR 156.150 and 46 CFR 35.35-30.

- > The spaces on the left are to be reviewed by ALL PIC's involved in the transfer and checked in agreement.
- > The right hand columns are to be initialed by the appropriate PIC and/or noted as not applicable with (N/A).
- Items on the list are provided to indicate that the detailed requirements have been met

<u>TOPIC</u>	PIC Delivering	PIC Receivin
Verify PIC designation/qualification 33 CFR 154.710, 154.730, 154.740(b)	VT	30
Person In Charge (PIC): In Immediate Vicinity and Available	W	78
Personnel: Capable/Unimpaired	N	70
Name, title and location of each person participating in the transfer operation	w	20
MC 20 Subsea Storage Offloading Operations & Maintenance Manual present with procedures and particulars of the transfer and receiving systems to be followed and verified with key personnel involved in these operations	u	30
Watch and shift arrangements discussed	W	30
Cargo is Authorized for transfer to or from tanks	W	JB
Discuss if transfer will need to stopped to change tanks – supply or receiving facility	K	JB
Discuss transfer rates and max allowable to receiving facility	W	20
(Facility/Vessel) properly vented (monitoring vacuum and positive tanks pressure)	4	JB
Communications & No Language Barrier	W	10
Hoses and Connection - 33CFR 154.500		
Nonmetallic hoses usable for oil or hazardous material service	M	38
Proper connections (must be one of the following):	W	28
Fusion 100 hammer union connections	W	
Quick-disconnect coupling present on suction side of pump		ali
Examine transfer hose markings or records.	W.	ac
Name of product handled; example "OIL SERVICE," or "HAZMAT SERVICE"	W	70
Examine Transfer Hose condition - 33CFR 156.170		
No unrepaired kinks, bulges, soft spots, loose covers, other defects	W	23
No cuts, slashes, or gouges that penetrate the first layer of hose reinforcement	Ur.	
No external/internal deterioration	W.	73
Emergency shutdown - 33CFR 156.170	1 . 1	
Test emergency shutdown - 33CFR 154.550 - who controls the emergency shutdown	V)3
Communication system continuously operated.	W	38
Verify operating properly (Electric, pneumatic, or mechanical link to facility; electronic voice)	W	<i>S</i> 3
Record test info in physical information.	N	38
Examine closure device - 33CFR 154.520		1
Verify enough to blank off ends of each hose /loading arm not connected for transfer	1	20
Inspect Small Discharge Containment - 33CFR 154.530	V	
Inspect handling area and verify capacity (not less than 5 gallons).	4	-13



Z	Pre-Transfer Conference and Agreement (Continued)		
	<u>TOPIC</u>	PIC Delivering	PIC Receiving
Ins	pect discharge containment equipment for oil & hazardous liquids - 33CFR 154.545		
	Verify booming for oil or hazmat transfer (if required by COTP).	W	38
	Verify adequate amount of equipment and/or absorbent material for initial response	W	.)8
	Inspect condition of response equipment stored on facility (if applicable).	V	SB
	Verify availability of at least 200 feet of containment boom onsite within 1 hour.	VT	18
	Verify means of deployment.	W	38
Me	ans of Communication - 33 CFR 154.560		
	Verify continuous two-way voice communication between vessel and facility PICs.	I W	78
	Communications must meet the following requirements		10
	Portable Radio:		
	IF Flammable or Combustible Liquids	W	N
	Marked or documented as intrinsically safe.	K	70
	2. Certified as intrinsically safe by national testing labor certification organization.	V	3B
	Voice	1 1/4	20
	1. Be audible.	I un	10
	Test communications. SAT UNSAT UNSAT	NC.	28
Inc		K	20
IIIS	pect lighting systems - 33 CFR 154.570	1.5	
-	Verify portable lighting for operations between sunrise and sunset (if applicable).	W	55
-	At transfer operations work areas for facility and vessel	N	30
-	At transfer connection points for facility and vessel	K	SB
-	Verify sufficient number or fire extinguishers.	W	28
-	Verify protective equipment is ready to operate.	14	SB
	Verify warning signs are adequate.	K	70
	§ VESSEL ONLY - 155.730 Compliance with VESSEL TRANSFER PRO	CEDURES §	
	PIC for vessel/operator is required by §155.720 to have current transfer procedures		
1	Require vessel personnel to use the transfer procedures for each transfer operation		
	Available for inspection by the COTP or OCMI whenever the vessel is in operation		
	Legibly printed language(s) understood by personnel engaged in transfer operation		
	Permanently posted or available and used by members of crew engaged in transfer operat	ion	
	Appropriate tank level monitoring (visual, gauging, indicators, etc.)		
	Arrangements to monitor draft marks during transfer		
	Transfer Piping Line diagram, location of each valve, pump, control device, vent, and over	erflow	
	Shutoff valve location or isolation device separating bilge or ballast from the transfer syst	tem	
	Adequate containment on the vessel at loading or discharge connection		
	Drains, Scuppers and overboard discharges closed		
	The number of persons required to be on duty during transfer operations;		
	Procedures for emptying discharge containment system required by §§155.310 and 155.3	20	
	Procedures for tending the vessel's moorings during the transfer of oil or hazardous mater		
	Procedures for emergency shutdown/communications required by §§155.780 and 155.783		
)	
	Procedures for topping off tanks	,	



MCZO

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Job Hazard Analysis

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			covered Crude Oil / Vessel			9-19-22
Heavy or aw	kward lifting /		SUMMARY OF POTENTIAL HAZ		k applicable)	
movement			Pinch Points or caught betwe	en	☑ Working and	walking surfaces; slip, trip, fall
New / Inexperienced employees		Spill / containment		M Heat stress e	Heat stress environment	
Struck by or o			☑ Noise levels (>85 dBA)		Z rear stress environment	
Hazardous lic	quids, vapors, w	aste	☐ Elevated surfaces / Fall / Ladders		Ti -	
			APPLICABLE REGULATION			
SMS 19.2 Vac	cuum Trucks			, , , , , , , , , , , , ,	Tn	
		MI	NIMUM PERSONAL PROTECTIVE EC	DUIPMENT (Check applicable)	
Level B Level C	✓ Hard Hat✓ Safety Glass✓ Face Shield		☐ High Visibility Vest ☐ Long Sleeves / Coveralls ☐ Chemical protective clothing	□ Leather □ Dispos	er Steel Toe Boots able boot covers ene Steel Toe Boots	PFD / Work vest
Level D	Hearing Pro	tection	Respirator:			
O Job 9	Stens		JOB HAZARD AN	VALYSIS		
1. Pre-job N	Meetings	• Per	Potential Hazards sonnel do not understand the	• Th	Preventive M	easures / Special PPE
2. Site Survey and Equipment Set-up haz: The interpretation of the image of the im		hazards are identified		 The operational plan, hazards and controls will be explain to all involved personnel in Safety/Ops meeting. Personn will be encouraged to ask questions if they are unsure of any project details Immediate supervisor will remind their crews of their Authority and Responsibility to Stop work and contact the supervisor if they discover a hazard Personnel will be instructed to report any injuries, illnesse near misses or incidents 		
		hazards. Equipment not certified, not tested or damaged Improper set-up due to untrained or unqualified personnel		Inspect site for correctable walking surface hazards. Fla Correct upsafe conditions. Position and in the correct upsafe conditions.		
		vehice Vehice move Unse	onnel, equipment or hoses ck or crushed by moving cles or equipment cles not inspected prior to ements. Unsafe for travel. cured items create dropped ct or road hazards.	GrownVehVeh	ound guides will be u on-essential personn oth will be confirmed nicles will be inspecte ter travel for potenti icles will be inspecte	d to ensure that there are no
working near water •		 Perso caugh Perso durin Perso 	onnel struck by thrown lines or nt in "line of fire", onnel pinched or crushed g vessel movements. onnel fall into the water. Man opard.	to fall on the ground and pick them up. Do n catch mooring lines from the M/V. When mooring the vessel, keep hands, fingers, other body parts from between the mooring libits on the dock Never work alone. All personnel within 5' of the are required to wear a USCG approved PFD. A "man overboard" procedures prior to work. He		g lines to the shore allow the lines d pick them up. Do not attempt to n the M/V. , keep hands, fingers, arms, and all etween the mooring line and the sonnel within 5' of the docks edge ISCG approved PFD. Always discuss lures prior to work. Have life ring
while of Person other of during hoses		nnel crushed or pinched connecting transfer hoses. nnel suffer back strain or ergonomic related injuries connections or moving	 Iden incl par Trar hos incl as li 	uding cam-lock conne ts or equipment nsfer hoses can be he les employees shall us uding keeping your bi ifting with your knees	d avoid all crush/pinch points: ections, vehicles and other moving avy and when handling these se proper ergonomic practices ack as straight as possible as well	



Revision: 08/2015

Job Hazard Analysis

Job Steps	Potential Hazards	Preventive Measures / Special PPE
		awareness when walking in the dock area. Try to run hoses in an area that is out of the normal walking path and go around if possible
6. Working in potentially hazardous atmospheres	Personnel exposed to hazards related to hazardous atmospheres. Ignition sources create potential for explosive conditions Personnel not equipped to suppress incipient fire	 Calibrated multi-gas meters/detectors will be used to confirm that LEL's, CO and other gases are within safe range for pumping and transfer operations. Operations will transfer operations will stop immediately if LEL's or Carbon Monoxide levels become elevated A protective distance of 100' outside shoreside transfer will be identified, and marked with caution tape and warning signs, to prohibit smoking, sparks and any potential source of ignition within the transfer area perimeter. The M/V will suspend all similar activities for the duration of transfer operations. Fire extinguishers will be placed at the transfer manifolds, compressors, vessel and any other areas of potential ignition.
7. Energizing pneumatic equipment	 Personnel injured when struck by hoses or pressure during hose connection or fitting failure. Air leaks or blowout causing pressure related injuries. Hearing loss/injury due to noise levels above 85 decibels 	 All pressurized hoses will have whip checks and safety clips installed prior to energizing. All pneumatic hoses will be inspected prior to use. Pumping operations will be stopped immediately if leaks are detected during operations. Defective hoses will be replaced with new hoses/whips. Hearing protection will be worn in all areas where highnoise machinery and equipment is being operated.
8. Transfer of recovered crude oil	Personnel contacted by crude oil spray or environmental release. Overfilling tank resulting in spills Personnel overcome by potentially hazardous vapors	 All transfer hoses used will be inspected, certified and tested prior to use. They will be secured with safety clips and wrapped with absorbent pads and duct tape. Polypropylene line will be used as an added retention measure. Personnel will wear Level D PPE and increase protection as appropriate. Spill control kits/supplies will be available on site. The DOI Declaration of Inspection will be completed prior to operations. Prior to transfer the amount of product that can be accepted will be calculated and the PIC will ensure that there is ample room to handle the transferred product. Crude oil is a mixture of various hydrocarbons. Among them can be benzene, hydrogen sulfide, and other chemicals. There will be a properly calibrated and bump tested 4-gas meter on site during transfer to ensure vapors aren't present. All work will stop if hazardous gasses are detected. PPE will be upgraded according to the concentration of hazards detected. If personnel will work at heights above 6': fall protection will be worn and a rescue plan will be in place. Fire extinguishers will be placed at the transfer manifolds, compressors, vessel and any other areas of potential ignition.
9. Transfer of oil into transporter	 Personnel contacted by crude oil spray or environmental release Overfilling transportation vessel resulting in spills Personnel overcome by potentially hazardous vapors Fall hazards present if personnel are working above 6 feet 	 All transfer hoses used will be inspected, certified and tested prior to use. They will be secured with safety clips and wrapped with absorbent pads and duct tape. Polypropylene line will be used as an added retention measure. Personnel will wear Level D PPE and increase protection as appropriate. Spill control kits/supplies will be available on site. Prior to transfer the amount of product that can be accepted will be calculated and the PIC will ensure that there is ample room to handle the transferred product. Crude oil is a mixture of various hydrocarbons. Among them can be benzene, hydrogen sulfide, and other chemicals. There will be a properly calibrated and bump tested 4-gas meter on site during transfer to ensure vapors aren't present. All work will stop if hazardous gasses are



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Job Hazard Analysis

Revision: 08/2015

O Job Steps	Potential Hazards	Preventive Measures / Special PPE
		detected. PPE will be upgraded according to the concentration of hazards detected. If personnel will work at heights above 6': fall protection vibe wom and a rescue plan will be in place. Fire extinguishers will be placed at the transfer manifolds, compressors, vessel and any other areas of potential ignition.
Prolonged exposure to elements (Heat Stress)	rest resulting in heat stress	 Personnel will be encouraged to hydrate frequently. Water sports drink ratio will be 3:1 (1 sports drink to 3 waters consumed). Work to rest schedules will be determined based on the ambient temperature, acclimatization of personnel and work being performed. Heat stress potential and signs/symptoms will be discussed at all safety meetings, tailgate meetings and during breaks. Personnel will be encouraged to self-report any early symptoms of heat stress. All personnel will be advised that stop work authority applies to potential heat stress symptoms they may be experiencing, (or that they suspect with coworkers).
11. Break time	 Potential for ingestion of petroleum product or other contaminants. Fire hazards from unrestricted smoking Direct sun reduces recovery time for workers during breaks Inadequate water 	 Personnel will wash hands before smoking, eating, drinking or any other activity where contaminants might be ingested. This hazard will be stressed in break areas. Only smoke in designated areas. Ensure that break areas have adequate shade and cooling potential for personnel Personnel are more likely to hydrate when cool water is available. Ensure an adequate supply and include sports drinks with electrolytes to be consumed sparingly.
12. Decontaminate Personnel	Potential for secondary contamination by absorption, injection, or ingestion	 Follow decontamination plan for clothing removal and disposal when protective outerwear is required and becomes contaminated. Only use safety scissors (never knives) to cut Tyvek from personnel. Ensure that workers wash hands and face thoroughly.
NRC INCIDENT REPORTING POLICY	First Aid OSHA recordable Illness/Injury Near Miss Equipment/Vehicle Damage	 NRC employees and subcontractors are required to immediately report all incidents to their supervisor. The immediate supervisor will immediately report the incident to the site safety professional, HSEQ Manager, and Project Manager. As soon as possible the affected employee will complete the required form, if an injury then the first report of injury; if near miss, then a near miss / safety suggestion form will be completed. The supervisor will complete a root cause analysis of all reported incidents and submit to the HSEQ manager within 8 hours of an incident. Determination will be made regarding need for post-incident drug and alcohol testing based on NRC policy. Contact HSEQ Manager for proper USCG reports, if needed and what report is needed.

REVIEW

Development Team	Position/Title	Reviewed By	Position/Title	Date
				7/27/20
			PM	9-19-2
	AC	KNOWI EDGEMENT J	1.4	1 11

Employee Name ACKNOWLEDGEMEN

Signature

9/12/12 9/14-12



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Job Hazard Analysis

Revision: 08/2015

9-19-22 9-19-22 9-19-23



MC20#42



Job Hazard Analysis

	SAFETY IT'S THE WAY TO GO!
Rev	rision: 08/2015

	IC 20 Recovered Crude Oil / Vess		9-20-22	
Heavy or awkward lifting /	SUMMARY OF POTENTIAL H.			
movement	Pinch Points or caught between	ween Working and walking surfaces; slip, trip, fall		
New / Inexperienced emplo	oyees Spill / containment	⊠ Heat s	tress environment	
Struck by or crush hazard	☑ Noise levels (>85 dBA)		tress environment	
🛮 Hazardous liquids, vapors, v	vaste	dders		
	APPLICABLE REGULATION			
SMS 19.2 Vacuum Trucks		ON / SOFS / ALERIS		
	MINIMUM PERSONAL PROTECTIVE	FOUIDMENT (Charles III	1.6.5	
☐ Level A ☐ Hard Hat ☐ Level B ☐ Safety Glas ☐ Level C ☐ Face Shield ☐ Level D ☐ Hearing Pro	□ High Visibility Vest Ses □ Long Sleeves / Coveralls □ Chemical protective clothing Otection □ Respirator:	 ✓ Leather Steel Toe Bo ✓ Disposable boot cov ✓ Neoprene Steel Toe ✓ Gloves: 	poots PFD / Work vest	
Job Steps	JOB HAZARD	ANALYSIS		
 Pre-job Meetings Behavior Based Safety 	 Personnel do not understand the operational plan, relevant hazards or their roles/responsibilities Personnel do not stop work when hazards are identified Personnel do not report injuries, illnesses, near misses or incidents 	 Preventive Measures / Special PPE The operational plan, hazards and controls will be explain to all involved personnel in Safety/Ops meeting. Personn will be encouraged to ask questions if they are unsure of any project details Immediate supervisor will remind their crews of their Authority and Responsibility to Stop work and contact the supervisor if they discover a hazard Personnel will be instructed to report any injuries, illnesse 		
Site Survey and Equipment Set-up	 Uneven working surfaces and trip hazards. Equipment not certified, not tested or damaged Improper set-up due to untrained or unqualified personnel 	correct unsafe conditions. away from travel paths. Ic away from travel paths. Ic All equipment will be inspectively and service able were		
3. Vehicle movements	 Personnel, equipment or hoses struck or crushed by moving vehicles or equipment Vehicles not inspected prior to movements. Unsafe for travel. Unsecured items create dropped object or road hazards. 	 Ground guides w Non-essential properties will be con Vehicles will be in after travel for properties will be in 	reflective in the content of the con	
Mooring Vessel and working near water	 Personnel struck by thrown lines or caught in "line of fire". Personnel pinched or crushed during vessel movements. Personnel fall into the water. Man overboard. 	 When tossing the to fall on the gro catch mooring lin When mooring the other body parts bits on the dock Never work alone. are required to w 	mooring lines to the shore allow the lines and and pick them up. Do not attempt to less from the M/V. Expressed, keep hands, fingers, arms, and all from between the mooring line and the line and the line and line and line and line are specifically approved PFD. Always discussifications of the line and line are prior to work. Have life ring	
Personnel crushed or pinched while connecting transfer hoses. Personnel suffer back strain or other ergonomic related injuries during connections or moving hoses Slip/trip/fall hazards while working		 Identify, communic including cam-loci parts or equipmer Transfer hoses can hoses employees including keeping as lifting with you 	cate and avoid all crush/pinch points:	





Job Hazard Analysis

Job Steps	Potential Hazards	Preventive Measures / Special PPE
		awareness when walking in the dock area. Try to run hoses in an area that is out of the normal walking path ar go around if possible
Working in potentially hazardous atmospheres	 Personnel exposed to hazards related to hazardous atmospheres. Ignition sources create potential for explosive conditions Personnel not equipped to suppress incipient fire 	 Calibrated multi-gas meters/detectors will be used to confit that LEL's, CO and other gases are within safe range for pumping and transfer operations. Operations will transfer operations will stop immediately if LEL's or Carbon Monoxide levels become elevated A protective distance of 100' outside shoreside transfer will identified, and marked with caution tape and warning sign to prohibit smoking, sparks and any potential source of ignition within the transfer area perimeter. The M/V will suspend all similar activities for the duration of transfer operations. Fire extinguishers will be placed at the transfer manifolds, compressors, vessel and any other areas of potential
Energizing pneumatic equipment	 Personnel injured when struck by hoses or pressure during hose connection or fitting failure. Air leaks or blowout causing pressure related injuries. Hearing loss/injury due to noise levels above 85 decibels 	 ignition. All pressurized hoses will have whip checks and safety clips installed prior to energizing. All pneumatic hoses will be inspected prior to use. Pumping operations will be stopped immediately if leaks are detected during operations. Defective hoses will be replaced with new hoses/whips. Hearing protection will be worn in all areas where highnoise machinery and equipment is being appared.
8. Transfer of recovered crude oil	Personnel contacted by crude oil spray or environmental release. Overfilling tank resulting in spills Personnel overcome by potentially hazardous vapors	 noise machinery and equipment is being operated. All transfer hoses used will be inspected, certified and tested prior to use. They will be secured with safety clips and wrapped with absorbent pads and duct tape. Polypropylen line will be used as an added retention measure. Personne will wear Level D PPE and increase protection as appropriate. Spill control kits/supplies will be available on site. The DOI Declaration of Inspection will be completed prior to operations. Prior to transfer the amount of product that can be accepted will be calculated and the PIC will ensure that there is ample room to handle the transferred product. Crude oil is a mixture of various hydrocarbons. Among there can be benzene, hydrogen sulfide, and other chemicals. There will be a properly calibrated and bump tested 4-gas meter on site during transfer to ensure vapors aren't present. All work will stop if hazardous gasses are detected. PPE will be upgraded according to the concentration of hazards detected. If personnel will work at heights above 6': fall protection will be worn and a rescue plan will be in place. Fire extinguishers will be placed at the transfer manifolds, compressors, vessel and any other areas of potential ignition.
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Job Hazard Analysis

Revision: 08/2015

O Job Steps	Potential Hazards	Preventive Measures / Special PPE
10. Deleved		detected. PPE will be upgraded according to the concentration of hazards detected. If personnel will work at heights above 6': fall protection where worn and a rescue plan will be in place. Fire extinguishers will be placed at the transfer manifolds, compressors, vessel and any other areas of potential ignition.
Prolonged exposure to elements (Heat Stress)	rest resulting in heat stress	 Personnel will be encouraged to hydrate frequently. Water sports drink ratio will be 3:1 (1 sports drink to 3 waters consumed). Work to rest schedules will be determined based on the ambient temperature, acclimatization of personnel and work being performed. Heat stress potential and signs/symptoms will be discussed at all safety meetings, tailgate meetings and during breaks. Personnel will be encouraged to self-report any early symptoms of heat stress. All personnel will be advised that stop work authority applies to potential heat stress symptoms they may be experiencing, (or that they suspect with coworkers).
11. Break time	 Potential for ingestion of petroleum product or other contaminants. Fire hazards from unrestricted smoking Direct sun reduces recovery time for workers during breaks Inadequate water 	 Personnel will wash hands before smoking, eating, drinking or any other activity where contaminants might be ingested. This hazard will be stressed in break areas. Only smoke in designated areas. Ensure that break areas have adequate shade and cooling potential for personnel Personnel are more likely to hydrate when cool water is available. Ensure an adequate supply and include sports
12. Decontaminate Personnel	Potential for secondary contamination by absorption, injection, or ingestion	 drinks with electrolytes to be consumed sparingly. Follow decontamination plan for clothing removal and disposal when protective outerwear is required and becomes contaminated. Only use safety scissors (never knives) to cut Tyvek from personnel. Ensure that workers wash hands and face thoroughly.
NRC INCIDENT REPORTING POLICY	First Aid OSHA recordable Illness/injury Near Miss Equipment/Vehicle Damage	 NRC employees and subcontractors are required to immediately report all incidents to their supervisor. The immediate supervisor will immediately report the incident to the site safety professional, HSEQ Manager, and Project Manager. As soon as possible the affected employee will complete the required form, if an injury then the first report of injury; if near miss, then a near miss / safety suggestion form will be completed. The supervisor will complete a root cause analysis of all reported incidents and submit to the HSEQ manager within 8 hours of an incident. Determination will be made regarding need for post-incident drug and alcohol testing based on NRC policy. Contact HSEQ Manager for proper USCG reports, if needed and what report is needed.

REVIEW

		ILL VIL VV		
Development Team	Position/Title	Reviewed By	Position/Title	Date
				7/27/20
			pm	9-20 22
	Δ(WALOWI EDGENIENT		

Employee Name	et	
Employee Name	Signature	Date
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Job Hazard Analysis

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Revision: 08/2015

7-20-22

9.20.27

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4 Truck

MC20

#42



SAFETY MANAGEMENT SYSTEM

Revision: 08/2015

Job Hazard Analysis

TASK DESC	KIPTION: IVIC	20 Recovered Crude				9-21-22
		SUMMARY O	F POTENTIAL HAZA	ARDS (Che	ck applicable)	
Heavy or a movement	Heavy or awkward lifting /		s or caught betwee	en	Working and walking surfaces; slip, trip, f	
☐ New / Inex	perienced employe	es Spill / conta	inment		Heat stress envir	onment
Struck by o	r crush hazard	Noise levels ■ Noise levels Noise	☐ Noise levels (>85 dBA)			
Hazardous	liquids, vapors, wa	ste 🛛 Elevated su	rfaces / Fall / Ladd	ers		
		APPLICA	ABLE REGULATION	/ SOPS /	ALERTS	
☐ SMS 19.2 V	acuum Trucks					
		MINIMUM PERSON	AL PROTECTIVE EC	QUIPMENT	(Check applicable)	****
Level A	☐ Hard Hat	☐ High Visibili		T	her Steel Toe Boots	PFD / Work vest
☐ Level B	Safety Glasse	s \omega Long Sleeve	s / Coveralls	Disp	osable boot covers	
Level C	Face Shield		otective clothing		prene Steel Toe Boots	
⊠ Level D	☐ Hearing Prot			⊠ Glov		
			JOB HAZARD AN			
	b Steps	Potential H	lazards		Preventive Mea	
	b Meetings vior Based Safety	Personnel do not un operational plan, re or their roles/respo Personnel do not st hazards are identific Personnel do not re illnesses, near misse	elevant hazards Insibilities Iop work when Ied Iport injuries,		to all involved personnel will be encouraged to as any project details Immediate supervisor will Authority and Responsib supervisor if they discove	ed to report any injuries, illnesses,
struck or crushed by moving vehicles or equipment Vehicles not inspected prior to movements. Unsafe for travel Unsecured items create dropp		ified, not tested		correct unsafe condition away from travel paths. All equipment will be inst testing and serviceable	le walking surface hazards. Flag or ns. Position equipment and hoses Identify "no-go" areas. Dected for current certifications, working condition prior to work ected to perform tasks based on	
		struck or crushed by vehicles or equipme • Vehicles not inspect movements. Unsafe • Unsecured items cre			 Ground guides will be used for equipment movem Non-essential personnel will clear the travel path path will be confirmed as clear prior to movemer Vehicles will be inspected by drivers prior to trave after travel for potential damage. Vehicles will be inspected to ensure that there are loose items and that loads are secured properly. 	
Mooring Vessel and working near water Personnel struck by thrown lines of caught in "line of fire". Personnel pinched or crushed during vessel movements. Personnel fall into the water. Man overboard.		thrown lines or e". or crushed ments.		When tossing the mooring to fall on the ground and catch mooring lines from When mooring the vessel, other body parts from be bits on the dock Never work alone. All pers are required to wear a U.	lines to the shore allow the lines pick them up. Do not attempt to the M/V. keep hands, fingers, arms, and all tween the mooring line and the sonnel within 5' of the docks edge SCG approved PFD. Always discussures prior to work. Have life ring	
5. Conne	cting hoses	 Personnel crushed of while connecting transport Personnel suffer base other ergonomic reliduring connections hoses Slip/trip/fall hazards 	ansfer hoses. ck strain or lated injuries or moving	٠	Identify, communicate and including cam-lock conne parts or equipment Transfer hoses can be he hoses employees shall us including keeping your bas lifting with your knees	d avoid all crush/pinch points: ections, vehicles and other moving avy and when handling these se proper ergonomic practices ack as straight as possible as well

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Job Hazard Analysis

Job Steps	Potential Hazards	Preventive Measures / Special PPE
		awareness when walking in the dock area. Try to run hoses in an area that is out of the normal walking path and go around if possible
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Job Hazard Analysis

Revision: 08/2015

O Job Steps	Potential Hazards	Preventive Measures / Special PPE
		detected. PPE will be upgraded according to the concentration of hazards detected. If personnel will work at heights above 6': fall protection will be worn and a rescue plan will be in place. Fire extinguishers will be placed at the transfer manifolds, compressors, vessel and any other areas of potential ignition.
Prolonged exposure to elements (Heat Stress)	Inadequate hydration Extended work periods without rest resulting in heat stress	 Personnel will be encouraged to hydrate frequently. Water to sports drink ratio will be 3:1 (1 sports drink to 3 waters consumed). Work to rest schedules will be determined based on the ambient temperature, acdimatization of personnel and work being performed. Heat stress potential and signs/symptoms will be discussed at all safety meetings, tailgate meetings and during breaks. Personnel will be encouraged to self-report any early symptoms of heat stress. All personnel will be advised that stop work authority applies to potential heat stress symptoms they may be experiencing, (or that they suspect with coworkers).
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REVIEW

Development Team	Position/Title	Reviewed By	Position/Title	Date
			1	7/27/20
			PM	9-21-2

ACKNOWLEDGEMENT

Employee Name

Signature

9-21-22

9-21-22





Job Hazard Analysis



MCZO Tank change



SAFETY MANAGEMENT SYSTEM

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Job Hazard Analysis

Revision: 08/2015

TASK DESCRIPTION: MC 20 Recovered Crude Oil / Vesse			to Sho	re Transfer	9-27-2022	
			SUMMARY OF POTENTIAL HAZ	ARDS (Ch	eck applicable)	
		Pinch Points or caught betwe	Pinch Points or caught between		walking surfaces; slip, trip, fall	
☐ New / Inex	perienced employ	ees	Spill / containment		☐ Heat stress er	nvironment
Struck by	or crush hazard		☑ Noise levels (>85 dBA)			
Hazardous	liquids, vapors, wa	aste	☐ Elevated surfaces / Fall / Lado	lers		
			APPLICABLE REGULATION	N / SOPS	/ ALERTS	
SMS 19.2 V	/acuum Trucks					
		MI	NIMUM PERSONAL PROTECTIVE E	OUIPMEN	NT (Check applicable)	
Level A	☐ Hard Hat		☐ High Visibility Vest		ather Steel Toe Boots	
Level B	Safety Glass	es	☐ Long Sleeves / Coveralls		posable boot covers	D
Level C	Face Shield		☐ Chemical protective clothing		oprene Steel Toe Boots	
⊠ Level D	Hearing Pro	tection	Respirator:	⊠ Glo	fact in include a second case of	
	1440		JOB HAZARD A			
0 Jo	b Steps		Potential Hazards		Preventive N	leasures / Special PPE
Behavior Based Safety op or • Pe ha • Pe		Personnel do not understand the operational plan, relevant hazards or their roles/responsibilities Personnel do not stop work when hazards are identified Personnel do not report injuries, illnesses, near misses or incidents		will be encouraged to ask questions if they are unsure		
	urvey and ment Set-up	ha: Equation or limits	even working surfaces and trip gards. Uipment not certified, not tested damaged oroper set-up due to untrained unqualified personnel	trip Inspect site for correctable walking surface has correct unsafe conditions. Position equipmen away from travel paths. Identify "no-go" area All equipment will be inspected for current cer		tions. Position equipment and hoses ths. Identify "no-go" areas. inspected for current certifications, ble working condition prior to work
str vel • Ve mc • Un		Personnel, equipment or hoses struck or crushed by moving vehicles or equipment Vehicles not inspected prior to movements. Unsafe for travel. Unsecured items create dropped object or road hazards.		 Ground guides will be used for equipment moven Non-essential personnel will clear the travel path will be confirmed as clear prior to mover Vehicles will be inspected by drivers prior to trafter travel for potential damage. Vehicles will be inspected to ensure that there loose items and that loads are secured proper 		
working near water caugh Person during Person		sonnel struck by thrown-lines or ght in "line of fire". sonnel pinched or crushed ing vessel movements. sonnel fall into the water. Man rboard.	When tossing the mooring lines to the shore allow to fall on the ground and pick them up. Do not att catch mooring lines from the M/V. When mooring the vessel, keep hands, fingers, armother body parts from between the mooring line arbits on the dock Never work alone. All personnel within 5' of the dock are required to wear a USCG approved PFD. Alway "man overboard" procedures prior to work. Have litand recovery plan in place.		ring lines to the shore allow the lines and pick them up. Do not attempt to om the M/V. sel, keep hands, fingers, arms, and all between the mooring line and the personnel within 5' of the docks edge a USCG approved PFD. Always discuss sedures prior to work. Have life ring	
5. Connec	cting hoses	whiPer oth dur hos	sonnel crushed or pinched le connecting transfer hoses. sonnel suffer back strain or er ergonomic related injuries ing connections or moving es /trip/fall hazards while working	•	Identify, communicate including cam-lock corparts or equipment Transfer hoses can be hoses employees shall including keeping your as lifting with your kneeping your as lifting your your as lifting your your your your your your your your	and avoid all crush/pinch points: nnections, vehicles and other moving heavy and when handling these I use proper ergonomic practices r back as straight as possible as well



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O Job Steps	Potential Hazards	Preventive Measures / Special PPE		
		awareness when walking in the dock area. Try to run hoses in an area that is out of the normal walking path and go around if possible		
6. Working in potentially hazardous atmospheres	Personnel exposed to hazards related to hazardous atmospheres. Ignition sources create potential for explosive conditions Personnel not equipped to suppress incipient fire	 Calibrated multi-gas meters/detectors will be used to confirm that LEL's, CO and other gases are within safe range for pumping and transfer operations. Operations will transfer operations will stop immediately if LEL's or Carbon Monoxide levels become elevated A protective distance of 100' outside shoreside transfer will be identified, and marked with caution tape and warning signs, to prohibit smoking, sparks and any potential source of ignition within the transfer area perimeter. The M/V will suspend all similar activities for the duration of transfer operations. Fire extinguishers will be placed at the transfer manifolds, compressors, vessel and any other areas of potential ignition. 		
7. Energizing pneumatic equipment	 Personnel injured when struck by hoses or pressure during hose connection or fitting failure. Air leaks or blowout causing pressure related injuries. Hearing loss/injury due to noise levels above 85 decibels 	 All pressurized hoses will have whip checks and safety clips installed prior to energizing. All pneumatic hoses will be inspected prior to use. Pumping operations will be stopped immediately if leaks are detected during operations. Defective hoses will be replaced with new hoses/whips. Hearing protection will be worn in all areas where highnoise machinery and equipment is being operated. 		
Transfer of recovered crude oil	Personnel contacted by crude oil spray or environmental release. Overfilling tank resulting in spills Personnel overcome by potentially hazardous vapors	 All transfer hoses used will be inspected, certified and tested prior to use. They will be secured with safety clips and wrapped with absorbent pads and duct tape. Polypropylene line will be used as an added retention measure. Personnel will wear Level D PPE and increase protection as appropriate. Spill control kits/supplies will be available on site. The DOI Declaration of Inspection will be completed prior to operations. Prior to transfer the amount of product that can be accepted will be calculated and the PIC will ensure that there is ample room to handle the transferred product. Crude oil is a mixture of various hydrocarbons. Among them can be benzene, hydrogen sulfide, and other chemicals. There will be a properly calibrated and bump tested 4-gas meter on site during transfer to ensure vapors aren't present. All work will stop if hazardous gasses are detected. PPE will be upgraded according to the concentration of hazards detected. If personnel will work at heights above 6': fall protection will be worn and a rescue plan will be in place. Fire extinguishers will be placed at the transfer manifolds, compressors, vessel and any other areas of potential ignition. 		
9. Transfer of oil into transporter	 Personnel contacted by crude oil spray or environmental release Overfilling transportation vessel resulting in spills Personnel overcome by potentially hazardous vapors Fall hazards present if personnel are working above 6 feet 	 All transfer hoses used will be inspected, certified and tested prior to use. They will be secured with safety clips and wrapped with absorbent pads and duct tape. Polypropylene line will be used as an added retention measure. Personnel will wear Level D PPE and increase protection as appropriate. Spill control kits/supplies will be available on site. Prior to transfer the amount of product that can be accepted will be calculated and the PIC will ensure that there is ample room to handle the transferred product. Crude oil is a mixture of various hydrocarbons. Among them can be benzene, hydrogen sulfide, and other chemicals. There will be a properly calibrated and bump tested 4-gas meter on site during transfer to ensure vapors aren't present. All work will stop if hazardous gasses are 		



SAFETY IT'S THE WAY TO GO!

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O Job Steps	Potential Hazards	Preventive Measures / Special PPE
		 detected. PPE will be upgraded according to the concentration of hazards detected. If personnel will work at heights above 6': fall protection will be worn and a rescue plan will be in place. Fire extinguishers will be placed at the transfer manifolds, compressors, vessel and any other areas of potential ignition.
Prolonged exposure to elements (Heat Stress)	 Inadequate hydration Extended work periods without rest resulting in heat stress 	 Personnel will be encouraged to hydrate frequently. Water t sports drink ratio will be 3:1 (1 sports drink to 3 waters consumed). Work to rest schedules will be determined based on the ambient temperature, acdimatization of personnel and work being performed. Heat stress potential and signs/symptoms will be discussed at all safety meetings, tailgate meetings and during breaks. Personnel will be encouraged to self-report any early symptoms of heat stress. All personnel will be advised that stop work authority applies to potential heat stress symptoms they may be experiencing, (or that they suspect with coworkers).
11. Break time	 Potential for ingestion of petroleum product or other contaminants. Fire hazards from unrestricted smoking Direct sun reduces recovery time for workers during breaks Inadequate water 	 Personnel will wash hands before smoking, eating, drinking or any other activity where contaminants might be ingested. This hazard will be stressed in break areas. Only smoke in designated areas. Ensure that break areas have adequate shade and cooling potential for personnel Personnel are more likely to hydrate when cool water is available. Ensure an adequate supply and include sports drinks with electrolytes to be consumed sparingly.
12. Decontaminate Personnel	Potential for secondary contamination by absorption, injection, or ingestion	 Follow decontamination plan for clothing removal and disposal when protective outerwear is required and becomes contaminated. Only use safety scissors (never knives) to cut Tyvek from personnel. Ensure that workers wash hands and face thoroughly.
NRC INCIDENT REPORTING POLICY	First Aid OSHA recordable Illness/Injury Near Miss Equipment/Vehicle Damage	 NRC employees and subcontractors are required to immediately report all incidents to their supervisor. The immediate supervisor will immediately report the incident to the site safety professional, HSEQ Manager, and Project Manager. As soon as possible the affected employee will complete the required form, if an injury then the first report of injury; if near miss, then a near miss / safety suggestion form will be completed. The supervisor will complete a root cause analysis of all reported incidents and submit to the HSEQ manager within 8 hours of an incident. Determination will be made regarding need for post-incident drug and alcohol testing based on NRC policy. Contact HSEQ Manager for proper USCG reports, if needed and what report is needed.

REVIEW

Development Team	Position/Title	Reviewed By	Position/Title	Date
				7/27/20
			Pm	9-27-2

ACKNOWLEDGEMENT



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