

AP-111

AGWMR

7 of 12

2013

APPENDIX A

Separate Phase Hydrocarbons

APPENDIX A - RW-1 HYDROCARBON RECOVERY LOG (2-2005 THRU 12-2013)

Measurement Date	Time	Quarter	Method	Status	Depth to Product (ft)	Depth to Water (ft)	Product Thickness Level ² (ft)	Product Bailed or Purged ² (gal)	Water Purged ² (gal)
2/22/2005	8:30	1st	NR	Start	32.46	36.5	4.04	14	NR
3/2/2005	7:45	1st	NR	Start	32.42	36.44	4.02	9	NR
3/8/2005	8:30	1st	NR	Start	31.92	36.35	4.43	15	NR
3/9/2005	830	1st	NR	Start	31.92	37.5	5.58	4	NR
3/11 to 3/18/05	NR	1st	NR	Start	NR	NR	NR	74	NR
3/18 to 3/23/05	NR	1st	Pump	Continue pumping	NR	NR	NR	48	NR
3/23 to 4/1/05	NR	1st	Pump	Continue pumping	NR	NR	NR	62	NR
4/1 To 4/4/05		2nd	Pump	Pump shutdown to measure	NR	NR	NR	27	NR
4/5/2005	11:30	2nd	Pump		34.75	38.92	4.17	NR	NR
4/4 to 4/15/05	11:00	2nd	Pump	Continue pumping	NR	NR	NR	50	NR
4-15 to 5-5-05	12:30	2nd	Pump	Continue pumping	NR	NR	NR	45	154
5-5 to 6-17-05	11:30	2nd	Pump	Continue pumping	NR	NR	NR	24	196
6/27/2005	14:30	2nd		Pump shutdown to measure	NR	NR	NR	NR	NR
6/28/2005	11:30	2nd			32.46	33.25	0.79	NR	NR
6/28/2005		2nd	Pump	Continue pumping	NR	NR	NR	NR	NR
6/17 to 7/8/2005	10:30	2nd	Pump	Continue pumping	NR	NR	NR	18	146
7/8 to 8/9/2005	13:30	3rd	Pump	Continue pumping	NR	NR	NR	28	350
8/9 to 9/16/2005	11:35	3rd			36.46	36.54	0.08	8	240
12/5/2005	13:15	4th			31.92	34.71	2.79	NR	NR
12/8/2005	14:00	4th	Pump	Start	NR	NR	NR	NR	NR
12/22/2005	15:30	4th		stop	NR	NR	NR	5	120
12/29/2005	14:00	4th	Bailer	Hand bailed	NR	NR	NR	0.5	4.5
3/16/2006	13:00	1st.			NR	NR	NR	NR	NR
3/16/2006	14:30	1st.	Pump	Start	32.23	34.48	2.25	NR	NR
3/23/2006	14:30	1st.		Stop	NR	NR	NR	NR	NR
3/27/2006	15:30	1st.	Pump	Start	NR	NR	NR	NR	NR
3/31/2006	11:30	1st.	Pump	Continue pumping	NR	NR	NR	7	174
4/3/2006	11:30	2nd		Stop	NR	NR	NR	1	38
4/4/2006	11:00	2nd			32.75	33.08	0.33	NR	NR
6/6/2006	13:00	2nd			32.39	34.54	2.15	NR	NR
6/8/2006	15:00	2nd	Pump	Start	NR	NR	NR	NR	NR
6/29/2006	10:00	2nd		Stop	NR	NR	NR	8	365
7/31/2006	11:45	3rd			33.06	33.48	0.42	NR	NR
7/31/2006	11:45	3rd	Pump	Start pump	NR	NR	NR	NR	NR
8/3/2006	14:20	3rd		Stopped pump	NR	NR	NR	2	87
8/8/2006	9:00	3rd	Pump	Start pump	NR	NR	NR	NR	NR
8/10/2006	15:30	3rd	Pump	Start pump	NR	NR	NR	NR	NR
8/22/2006	9:00	3rd		Stopped. Pulled pump	NR	NR	NR	4.9	373
8/22/2006	9:45	3rd	Pump	Start pump	33.1	33.4	0.3	NR	NR
12/21/2006	15:55	4th	Pump	Start pump	35.2	36	0.8	0.62	70

RW-1 HYDROCARBON RECOVERY LOG - Continued

Measurement Date	Time	Quarter	Method	Status	Depth to Product (ft)	Depth to Water (ft)	Product Thickness Level ² (ft)	Product Bailed or Purged ² (gal)	Water Purged ² (gal)
2/21/2007	10:15	1st.	Pump	Start pump	33.42	34.6	1.18	0.63	53.5
6/5/2007	10:00	2nd		Compressor Down	32.42	32.71	0.29	NR	NR
6/5/2007	10:10	2nd		Hand Bailed	NR	NR	NR	0.05	9
6/6/2007	8:40	2nd		Hand bailed	NR	NR	NR	0.1	11
6/13/2007	14:00	2nd		Hand bailed	NR	NR	NR	0.1	12
6/14/2007	10:40	2nd		Hand bailed	NR	NR	NR	0.05	8
7/10/2007	10:08	3rd		Hand bailed	32.42	32.71	0.29	0.3	18
7/11/2007	9:25	3rd		Hand bailed	NR	NR	NR	0.21	NR
7/23/2007	10:00	3rd		Hand bailed	NR	NR	NR	0.1	NR
11/26/2007	10:50	4th		Hand bailed	30.76	36.45	5.69	0.18	37
2/18/2008	15:32	1st.		Hand Bailed - pump frozen	30.18	34.77	4.59	1.66	36
5/21/2008	14:10	2nd	Pump	Used Pump	30.33	34.57	4.24	1.39	51
9/12/2008 ¹	14:30	3rd		Bladder pump malfunctioned	30.03	34.59	4.56	Not Bailed	0
11/13/2008	13:00	4th	Pump	Used Pump	30.02	34.63	4.61	0.94	65
2/11/2009	14:05	1st.	Pump	Used Pump	30.21	31.72	1.51	0.29	90
5/5/2009	11:30	2nd	Pump	Used Pump	30.22	30.8	0.58	0.41	76
8/10/2009	9:22	3rd	Pump	Used Pump	30.69	31.02	0.33	0.89	98
10/28/2009	10:55	4th	Pump	Used Pump	30.56	30.75	0.19	0.19	74
3/3/2010	9:00	1st	Pump	Used Pump	30.89	31.05	0.16	0.21	31
6/3/2010	13:10	2nd	Pump	Used Pump	30.99	31.09	0.1	0.1	32
9/20/2010	14:00	3rd	Pump	Used Pump	29.91	30.06	0.15	0.25	34
11/3/2010	9:10	4th	Pump	Used Pump	30.89	31.01	0.12	0.1	31
3/9/2011	10:19	1st	Pump	Used Pump	30.04	30.15	0.11	0.12	40
6/27/2011	8:05	2nd	Pump	Used Pump	30.52	30.63	0.11	0.1	45
10/3/2011	15:07	Annual	Pump	Used Pump	30.81	30.9	0.09	0.11	42
11/8/2011	8:30	4th	Pump	Used Pump	30.77	30.85	0.08	0.09	38
3/15/2012	10:30	1st	Pump	Used Pump	29.31	29.34	0.03	0.02	22
6/4/2012	9:00	2nd	Pump	Used Pump	29.39	29.41	0.02	0.05	40
8/13/2012	10:30	3rd	Pump	Used Pump	29.54	30.13	0.59	0.4	40
10/8/2012	9:40	4th	Pump	Used Pump	29.28	30.18	0.9	0.5	35
3/26/2013	10:25	1st	Pump	Used Pump	29.11	32.6	3.49	0.028	24
6/17/2013	11:50	2nd	Pump	Used Pump	29.37	33.1	3.73	0.75	18
9/16/2013	11:05	3rd	Pump	Used Pump	28.75	33.09	4.34	0.8	19
11/12/2013	9:25	4th	Pump	Used Pump	28.73	33.11	4.38	0.75	25
					YTD TOTALS		78.61	466.888	3472

NOTES:

FT - Feet

Gal - Gallon

NR - Not recorded

YTD -Year to date

1) Bladder pump has torn diaphragm. Pump non-repairable. Ordered new pump

2) Measurements given are estimated values based on the technicians interpretation and should not be viewed as accurate.

APPENDIX A - RW-5 HYDROCARBON RECOVERY LOG (2-2005 THRU 12-2013)

Measurement Date	Time	Quarter	Method	Status	Depth to Product (ft)	Depth to Water (ft)	Product Thickness Level ¹ (ft)	Product Bailed/Purged ¹ (gal)	Water Purged ¹ (gal)
2/22/2005	14:15	1st	Bailer	Start	32.92	34.01	1.09	4.5	NR
3/3/2005	14:00	1st	Bailer	Start	33.08	33.42	0.34	6	NR
6/24/2005	9:00	2nd	Bailer	Start	32.96	34.04	1.08	2.5	NR
9/16/2005	9:20	3rd	Bailer	Start	32.83	33.85	1.02	2.5	NR
12/5/2005	14:00	4th	Bailer	Start	32.52	33.21	0.69	1.5	NR
3/16/2006	14:50	1st	Bailer	Start	32.58	33	0.42	1	NR
7/26/2006	14:35	2nd	Bailer	Start	32.9	33.31	0.41	0.5	NR
10/16/2006	09:15	4th	Bailer	Start	32.73	33.42	0.69	0.25	NR
2/13/2007	09:00	1st	Bailer	Start	32.17	33.95	1.78	0.5	NR
4/30/2007	11:20	2nd	Bailer	Start	33	33.83	0.83	2.5	NR
7/10/2007	10:15	3rd	Bailer	Start	33.1	33.92	0.82	2.5	NR
11/26/2007	08:00	4th	Bailer	Start	33.01	33.91	0.9	1.75	NR
2/18/2008	15:15	1st	Bailer	Start	33.19	33.95	0.76	0.19	20
5/21/2008	14:20	2nd	Bailer	Start	32.77	33.84	1.07	0.14	18
9/12/2008	14:30	3rd	Bailer	Start	32.62	32.85	0.23	0.05	15
11/3/2008	14:00	4th	Bailer	Start	31.05	32.34	1.29	0.05	15
2/11/2009	13:40	1st	Bailer	Start	32.08	32.15	0.07	0.05	15
5/5/2009	10:02	2nd	Bailer	Start	0	31.91	0	0	0
8/10/2009	9:50	3rd	Bailer	Start	0	31.94	0	0	0
10/28/2009	10:45	4th	Bailer	Start	0	31.71	0	0	0
3/3/2010	9:35	1st	Bailer	Start	0	31.63	0	0	0
6/3/2010	13:40	2nd	Bailer	Start	0	31.37	0	0	0
9/20/2010	14:24	3rd	Bailer	Start	0	31.94	0	0	0
11/3/2010	9:30	4th	Bailer	Start	0	31.94	0	0	0
3/9/2011	10:29	1st	Bailer	Start	0	30.05	0	0	20
6/27/2011	8:40	2nd	Bailer	Start	0	28.96	0	0	20
10/4/2011	8:15	3rd	Bailer	Start	0	29.89	0	0	14
11/8/2011	9:20	4th	Bailer	Start	0	29.85	0	0	17
3/15/2012	9:50	1st	Bailer	Start	0	29.32	0	0	15
6/4/2012	9:20	2nd	Bailer	Start	0	29.37	0	0	10
8/13/2012	10:50	3rd	Bailer	Start	0	29.49	0	0	10
10/8/2012	10:10	4th	Bailer	Start	0	29.58	0	0	15
3/26/2013	9:10	2nd	Bailer	Start	0	29.45	0	0	10
6/17/2013	10:20	2nd	Bailer	Start	0	29.44	0	0	14
9/16/2013	9:30	3rd	Bailer	Start	0	28.98	0	0	15
11/12/2013	9:50	4th	Bailer	Start	0	28.96	0	0	16
YTD TOTALS						13.49	26.48	259	

RW-5 HYDROCARBON RECOVERY LOG - Continued

Measurement Date	Time	Quarter	Method	Status	Depth to Product (ft)	Depth to Water (ft)	Product Thickness Level ¹ (ft)	Product Bailed/Purged ¹ (gal)	Water Purged ¹ (gal)
---------------------	------	---------	--------	--------	--------------------------	---------------------------	--	--	---------------------------------------

NOTES:

FT - Feet

Gal - Gallon

NR - Not recorded

YTD - Year to date

1) Measurements given are estimated values based on the technicians interpretation and should not be viewed as accurate.

APPENDIX A - RW-6 HYDROCARBON RECOVERY LOG (2-2005 THRU 12-2013)

Measurement Date	Time	Quarter	Method	Status	Depth to Product (ft)	Depth to Water (ft)	Product Thickness Level ¹ (ft)	Product Bailed/Purged ¹ (gal)	Water Purged ¹ (gal)
2/22/2005	14:30	1st	Bailer	Start	33.12	34.5	1.38	4.5	NR
3/3/2005	14:00	2nd	Bailer	Start	33.15	34	0.85	6	NR
6/24/2005	11:00	2nd	Bailer	Start	33.31	34.46	1.15	3.5	NR
9/16/2005	10:20	3rd	Bailer	Start	32.98	34.33	1.35	3	NR
3/16/2006	12:45	1st	Bailer	Start	32.67	33.75	1.08	2.5	NR
7/26/2006	15:00	2nd	Bailer	Start	33	34.12	1.12	1.5	NR
10/16/2006	09:55	4th	Bailer	Start	33.71	34.63	0.92	0.75	NR
2/13/2007	09:50	1st	Bailer	Start	33.29	34.5	1.21	0.75	NR
4/30/2007	11:25	2nd	Bailer	Start	34.42	34.58	0.16	0.25	NR
7/10/2007	10:08	3rd	Bailer	Start	33.29	34.58	1.29	6.78	NR
11/28/2007	08:10	4th	Bailer	Start	33.25	34.47	1.22	4.5	NR
2/18/2008	15:11	1st	Bailer	Start	33.44	34.35	0.91	0.11	20
5/21/2008	14:30	2nd	Bailer	Start	33.02	34.12	1.1	0.13	18
9/12/2008	14:35	3rd	Bailer	Start	32.12	32.83	0.71	0.09	15
11/3/2008	14:35	4th	Bailer	Start	32.46	32.69	0.23	0.04	15
2/11/2009	13:30	1st	Bailer	Start	32.19	32.35	0.16	0.12	15
5/5/2009	9:45	2nd	Bailer	Start	32.08	32.26	0.18	0.04	15
8/10/2009	9:55	3rd	Bailer	Start	32.04	32.28	0.24	0.03	15
10/28/2009	10:55	4th	Bailer	Start	31.81	32.03	0.22	0.03	12
3/3/2010	9:40	1st	Bailer	Start	31.78	32.01	0.23	0.05	15
6/3/2010	13:45	2nd	Bailer	Start	31.61	31.7	0.09	0.05	15
9/20/2010	14:30	3rd	Bailer	Start	32.04	32.28	0.24	0.03	15
11/3/2010	9:35	4th	Bailer	Start	32.01	32.1	0.09	0.02	15
3/9/2011	10:34	1st	Bailer	Start	30.24	30.26	0.02	0.04	25
6/27/2011	9:25	2nd	Bailer	Start	30.11	30.15	0.04	0.04	30
10/4/2011	9:05	3rd	Bailer	Start	29.91	29.94	0.03	0.09	30
11/8/2011	9:45	4th	Bailer	Start	29.90	29.93	0.03	0.05	25
3/15/2012	9:55	1st	Bailer	Start	0	29.46	0	0	17
6/4/2012	9:25	2nd	Bailer	Start	0	29.54	0	0	20
8/13/2012	11:00	3rd	Bailer	Start	0	29.57	0	0	15
10/8/2012	10:15	4th	Bailer	Start	0	29.62	0	0	15
3/26/2013	9:15	1st	Bailer	Start	0	29.59	0	0	20
6/17/2013	10:25	2nd	Bailer	Start	0	29.52	0	0	15
9/16/2013	10:10	3rd	Bailer	Start	0	29.13	0	0	20
11/12/2013	9:50	4th	Bailer	Start	0	29.1	0	0	15
					YTD TOTALS		16.25	34.99	432

NOTES:

FT - Feet

Gal - Gallon

NR - Not recorded

YTD - Year to date

1) Measurements given are estimated values based on the technicians interpretation.

APPENDIX A - YEAR TO DATE HYDROCARBON RECOVERY LOGS (RW-1, RW-5, RW-6)

RW-1

Year	Product Thickness Level ¹ (ft)	Product Bailed/Purged ¹ (gal)	Water Purged ¹ (gal)
2005	25.9	431.5	1210.5
2006	6.25	23.52	1107
2007	7.45	1.72	148.5
2008	18	3.99	152
2009	2.6	1.78	338
2010	0.53	0.66	128
2011	0.39	0.42	165
2012	1.54	0.97	137
2013	1.54	2.328	86
TOTAL	64.2	466.888	3472

RW-5

Year	Product Thickness Level ¹ (ft)	Product Bailed/Purged ¹ (gal)	Water Purged ¹ (gal)
2005	4.22	17	NR
2006	1.52	1.75	NR
2007	4.33	7.25	NR
2008	3.35	0.43	68
2009	0.07	0.05	15
2010	0	0	0
2011	0	0	71
2012	0	0	50
2013	0	0	55
TOTAL	13.49	26.48	259

RW-6

Year	Product Thickness Level ¹ (ft)	Product Bailed/Purged ¹ (gal)	Water Purged ¹ (gal)
2005	4.73	17	NR
2006	3.12	4.75	NR
2007	3.88	12.28	NR
2008	2.95	0.37	68
2009	0.8	0.22	57
2010	0.65	0.15	60
2011	0.12	0.22	110
2012	0	0	67
2013	0	0	70
TOTAL	16.25	34.99	432

NOTES:

NR - Not recorded

1) Measurements given are estimated values based on the technicians interpretation and should not be viewed as accurate.