

APPLICANTS' EXPERT REPORT
APPLICATION FOR PERMIT NO. 35-14402
Prepared by Rocky Mountain Environmental Associates, Inc.
March 11, 2015

INTRODUCTION

Karl and Jeffrey Cook (the "Applicants") submitted application for permit no. 35-14402 (the "Application" or simply "35-14402") which seeks to develop an additional 5.00 cfs of irrigation water, but no additional volume, to be used in conjunction with their existing water rights (which total 5.13 cfs and 2187.7 afa) summarized on the attached spreadsheet. The Applicants have determined that in order to effectively irrigate their crop of Timothy Hay, a specialized type of hay primarily used for racehorses, small mammals, and dairy cows,¹ the irrigation must occur on all four center pivots on their farm simultaneously. Timothy Hay does not do well with high volume water application rates more common with typical alfalfa varieties. Lower and more frequent application rates are required. Therefore, it is not practical or economic for the Applicants to cycle back and forth in two-pivot sets. In order to properly raise Timothy Hay, all four (at a minimum three) pivots must generally be on and irrigating during the growing season. For these reasons, the Applicants submitted 35-14402 to align their water rights with their historic diversion rate. The Applicants need to increase the total authorized diversion rate of their water rights.

Under the Applicants' existing water rights, they could divert their water rights into a holding pond at 5.13 cfs and thereafter infuse the stored water into their diversion system at their desired rate, the result of which would be a higher overall diversion rate that would allow all four pivots to operate simultaneously. Under this approach, there would be no need for the Applicants to seek 35-14402. However, this approach would (1) cause water losses from evaporation resulting from the surface storage of water, which is a waste of the water resource, (2) require construction of a holding pond which would take farmable acres out of production, (3) require pumping of water twice, the result of which will be increased electrical costs and reconstruction of the Applicants' current diversion system, and (4) require on and off times even during peak irrigation demand in order to refill the holding pond after it has been drained. In order to avoid these issues, the Applicants submitted 35-14402 under the premise that the increased rate, coupled with the volumetric limitation contained in the Applicants' existing water rights, would protect existing water rights from injury while and at the same time provide the Applicants with the ability to utilize their water more efficiently for the crops they are producing.

The Application was protested by the Surface Water Coalition (the "SWC" or "Protestants") after it was advertised. It is our understanding that, generally speaking, the SWC is concerned that the increased rate will allow the Applicants to access more water than they have historically. The SWC is also concerned with the past exceedance of the Applicant's authorized diversion rates, and how and to what extent that past practice should factor into an analysis of the Applicants' historic volumetric use if that amount is to be used as a limitation on 35-14402 and Applicants' existing water rights. Additionally, the SWC has raised a legal question as to whether and to what extent a water right holder can request

¹ See, e.g., http://en.wikipedia.org/wiki/Timothy_grass



an additional water right for diversion rate only. This report only addresses the first two concerns. The third concern is a legal question that cannot be addressed through this expert report.

After the Application was protested and the issues identified above were raised, the Applicants began collecting data in an effort to determine historical diversion and volumetric water use, and with that data, conceptualize ideas for potential resolution and/or appropriate limitations on 35-14402 in the event of a contested case hearing to address the required statutory criteria under Idaho Code § 42-203A.

The Applicants purchased the farm ground identified as the place of use in the Application on March 31, 2006. A review of historical data at the authorized point of diversion demonstrates that the Applicants diverted 1522.1 acre-feet in 2012. Between 2007 and today, the measured diversion rate at the authorized point of diversion ranged from between 7.00 cfs (2010) to 8.20 cfs (2007). The difference in flow rate is not unusual, and is likely the result of changed water levels and/or pump efficiency.

All of the iterations of the Department's ESPAM models are based on unit inputs of volume to determine impact to river reaches. It has never been and is currently not possible to input diversion rates into ESPAM. Generally speaking, for those concerned with aquifer-wide issues, the total volume of ground water withdrawals is, or should be, the primary concern. Diversion rate concerns are, or should be, primarily raised if there are concerns with localized well interference. No close-by wells have been identified by the SWC that may be impacted by the increased diversion rate that the Application would authorize. Therefore, for purposes of our analysis, we have presumed that the primary issue to be addressed at the hearing scheduled on this matter is the proper quantification of the historical volume which the Applicants can limit their water rights to instead of the decreed volumetric amount of 2,187.7 afa.

Because the Applicants took the system as they purchased it, they have operated the system without any significant changes or modifications to the diversion system, other than ongoing repair and maintenance. The system is equipped with measurement devices and has been accessed historically by water district personnel to record a flow rate measurement and total volume diverted each year. No concerns were raised with how their system has been operated by the Department or water district personnel. As such, they have not historically limited themselves to diversion of their decreed diversion rates of their water rights (5.13 cfs), and consequently, there is no year available that can be used as a basis for the volume they would have diverted if they limited their diversion rate to 5.13 cfs. As a result, it is necessary to perform an analysis to conclude what the diversion volume would have been.

ANALYSIS

It has been suggested previously that the historical diversion volume could or should be reduced on a percentage basis down at the same percentage of excess diversion rate. For example, an 8.2 cfs diversion rate and 1522 acre-feet volumetric amount could be reduced down to 62.6% of their values—the result of which is a 5.13 cfs diversion rate ($8.2 \times .626 = 5.13$) and a 952.8 acre-feet ($1522 \times .626 = 952.8$). However, this suggestion wrongly assumes that the Applicants would not have increased the duration or frequency of their irrigation cycles at the reduced rate. Therefore, RME has prepared the attached spreadsheet in consultation with the Applicants in order to analyze the Applicants' water rights, their historical volumetric use of water, and the volumetric water use the Applicants would have diverted even if they had been limited their diversion rate to 5.13 cfs.

The top columns on the spreadsheet show the combination limits of water rights listed under Jeffery Cook and Karl Cook that pertain to their farm ground identified as the place of use under 35-14402. Note that values for "LIMITED TO" are significantly different than values for the "Sum." For this property, the combined water rights are limited to 5.13 cubic feet per second (cfs), 2,187.7 acre feet per annum (afa), for the irrigation of 560.0 acres.

The next green bar calculates the number of days to produce 2187.7 afa. Using the standard conversion factor for acre feet pumped per day for one cubic feet per second (1.9835), a value of 215 days was calculated. The season of use on the water rights (April 1 to October 31) is 214 days. The difference between the two values is probably due to rounding errors. Standard Snake River Basin Adjudication review would have based the volume limitation on the maximum that could be diverted over the period of 214 days. From the 214 days, harvest days were subtracted as well as a rest day every 3 weeks based on information from the Applicants. Additionally, the Applicants are subject to a power company shut down of 12 hours every week. The result of these reductions is a total of 164 days available for pumping.

From this point in the spreadsheet, *theoretical* volumes are calculated on the basis of total number of days in the irrigation season and total number of days available to grow a hay crop on the basis of harvest and power company rest days (system off) using the decreed rate of 5.13 cfs and the system's measured capability of 8.2 cfs. The calculated values are 1,668.8 afa (for 5.13 cfs) to 2,667.4 afa (for 8.2 cfs).

The next question addressed in the spreadsheet is to "Calculate Number of days @ maximum diversion rate of 8.2 cfs and 1,667.3 afa." The calculation results in a value of 103 days. Thus, based on this calculation, the number of irrigation days should be in the range of 103.0 to 164.0 days.

The spreadsheet then calculates two hypothetical scenarios; one using the limitation of holding the diversion at the decreed rate of 5.13 cfs and the other calculation holding at the currently measured system diversion rate of 8.2 cfs. From this calculation we see that at 164 days and at 5.13 cfs, the system is capable of producing 1,668.8 afa. If pumping at the current diversion rate of 8.2 cfs, the system would pump about that same volume in 103 days. Therefore, this analysis concludes that it is reasonable to have a range of irrigation days somewhere between 103 and 164 days.

With an appropriate range established, the continued analysis examines actual water use in 2014 from measurement data provided by the Applicants to further inform our conclusions below. The next page of the spreadsheet includes actual data provided from a proprietary monitoring, tracking, and control package called "OnTrac" maintained on the Applicants' pivots for the 2014 irrigation season. The raw data provided on pages 3-5 of the spreadsheet show that the hours noted on the previous summary spreadsheet are for multiple days in sequence for that particular set. Note the final calculation numbers at the bottom of the sheet in green. 76.2 days is the total calculated number of 24-hr days that the system was measured running (pumping) during 2014. Based upon the system's ability to deliver water at approximately 8.2 cfs, the system delivered about 1,239 acre feet in 2014. Below that calculation, the other calculations are scenarios of what could have transpired if held to other constraints such as if the system were run full time during the same irrigation period of the 2014 measurement (149 days between April 28th and September 24th) at the decreed rate of 5.13 cfs or at the system's current rate of 8.2 cfs.

Because weather constantly varies, it is not known precisely when the Applicants will begin irrigating each year. For example, in 2014, they began irrigating on April 28th, but for 2015 (with much warmer and drier conditions), they will likely start irrigating on April 1st or shortly thereafter. If the Applicants would have been held to their decreed rate of 5.13 cfs, the Applicants have informed us that operationally, they would have run the pivots much more frequently on a rotation basis with virtually no shut down time other than for harvest times and the power savings time described above. It is therefore reasonable to presume that the Applicants would have run for 149 days if they were held to their diversion rate of 5.13 cfs. Even though the 149-day time period is not reduced for harvest days or power-off times, this is offset by assuming for purposes of our analysis that irrigation will begin on April 28th (28 days after the season of use begins) and end on September 24th (38 days before the end of the season of use), for a total reduction in days of 66 days. Furthermore, the 149-day time period is within the reasonable range of 103 and 164 days described above.

Therefore, based on the above information and analysis, we conclude that if the Applicant's system was held to the decreed rate of 5.13 cfs and run constantly for the same period of irrigation in 2014 (between April 28th and September 24th), the system would have produced 1,516 acre feet, 277 acre feet in excess of what was actually diverted in irrigation season 2014, a year with significant August rainfall. This amount is very close to the actual diversion volume of 1522 acre-feet in 2007 as described above. Therefore, to the extent the Applicants should be held to their historic diversion volume, we conclude that the volume limitation in 35-14402 and the Applicants' existing water rights should be 1522 acre-feet, and the diversion rate should be limited to 8.2 cfs, which would effectively result in issuance of a permit to the Applicants for 35-14402 of 3.07 cfs.

WATER RIGHTS

Karl & Jeffery Cook

Jeffery Cook	Diversion Rate (cfs)	Volume AFA	Acre Limit	PPU Acres
35-7280	3.13 cfs	626.7 afa	158.7 acres	418.0 acres
35-7281	3.73 cfs	836.0 afa	209.0 acres	418.0 acres
35-13241	0.86 cfs	209.2 afa	52.3 acres	418.0 acres
Sum =	7.72 cfs	1671.9 afa	418.0 acres	418.0 acres
LIMITED TO:	3.83 cfs	1633.3 afa	418.0 acres	418.0 acres

WATER RIGHTS

Karl Cook	Diversion Rate (cfs)	Volume AFA	Acre Limit	PPU Acres
35-14334	1.07 cfs	213.2 afa	53.3 acres	142.0 acres
35-14335	1.27 cfs	284.0 afa	71.0 acres	142.0 acres
35-14336	0.29 cfs	70.8 afa	17.7 acres	142.0 acres
Sum =	2.63 cfs	568.0 afa	142.0 acres	142.0 acres
LIMITED TO:	1.30 cfs	554.4 afa	142.0 acres	142.0 acres

Combined Water Rights

Jeffery Cook	3.83 cfs	1633.3 afa	418.0 acres
Karl Cook	1.30 cfs	554.4 afa	142.0 acres
Combined =	5.13 cfs	2187.7 afa	560.0 acres

Calculate # days to produce 2187.7 afa

$$\text{Volume} = \text{ac-ft} = (\text{cfs})(1.9835)(\# \text{ days})$$

$$\# \text{ Days} = (\text{ac-ft}) \div (\text{cfs} \times 1.9835) = 2187.7 \div [5.13 \text{ cfs} \times 1.9835] =$$

$$\text{Days} = (2187.7) \div (10.1754) = 214.9999 = \mathbf{215 \text{ Days}}$$

April 1	Oct 31	# days
90	304	214.0 days
Harvest 4 weeks =		28.0 days
		186.0 days

$$\text{One day off every 3 weeks} = 186 \text{ days} / 7 \text{ days/week} = 26.6 \text{ weeks} + 3 = 8.9 \text{ days}$$

$$177.1 \text{ days remaining}$$

$$\text{Power Co. Savings} = 12 \text{ hr/Week}$$

$$0.5 \text{ day/week} \times 26.6 \text{ weeks} = 13.3 \text{ days}$$

$$163.9 \text{ days remaining} = \mathbf{164.0 \text{ days}}$$

$$\text{Volume} = (\text{cfs})(1.9835)(\# \text{ days})$$

$$\text{Diversion Volume @ 5.13 cfs for 214 days}$$

$$5.13 \times 1.9835 \times 214.0 = \mathbf{2177.6 \text{ afa}}$$

$$\text{Diversion Volume @ 5.13 cfs for 164.0 days}$$

$$(\text{cfs})(1.9835)(\# \text{ days}) = 5.13 \times 1.9835 \times 164.0 = \mathbf{1668.8 \text{ afa}}$$

$$\text{Diversion Volume @ 8.20 cfs for 163.9 days}$$

$$(\text{cfs})(1.9835)(\# \text{ days}) = 8.20 \times 1.9835 \times 164.0 = \mathbf{2667.4 \text{ afa}}$$

$$\text{Calculate Number of days @ maximum diversion rate of 8.20 cfs and 1667.3 afa}$$

$$(\text{cfs})(1.9835)(\# \text{ days}) = \text{Volume (afa)}$$

$$\# \text{ Days} = \text{Volume} \div (\text{cfs} \times 1.9835) = 1668.76 \div (8.20 \times 1.9835) = 102.60 = \mathbf{103.0 \text{ days}}$$

The Number of Days of Irrigation may range from 103.0 days to 164.0 days

$$\text{Volume} = (\text{cfs}) \times (1.9835) \times (\# \text{ Days}) = \text{AFA}$$

@ 5.13 cfs	1.9835	# Days	=	Volume
Volume	5.13	103	=	1048.062 afa (Minimum)
@ Decreed rate	5.13	164	=	1668.758 afa (Maximum)

@ 8.2 cfs	1.9835	# Days	=	Volume
Volume	8.20	103	=	1675.264 afa (Minimum)
@ Current Div. Rate	8.20	164	=	2667.411 afa (Maximum)

Data from OnTrac System*

Day #	date	RWF hrs	SWI hrs		Total
118	4/28/2014	0.9	0.5	=	1.4
	4/29/2014	19.0		=	19.0
	4/30/2014	20.3	0.2	=	20.5
	5/1/2014	138.4		=	138.4
	5/7/2014		0.5	=	0.5
	5/9/2014	79.1		=	79.1
	5/13/2014		0.4	=	0.4
	5/16/2014	123.6	0.1	=	123.7
	5/21/2014		0.1	=	0.1
	5/27/2014	95.6		=	95.6
	5/31/2014		0.3	=	0.3
	6/2/2014	112.7		=	112.7
	6/7/2014	10.6	0.3	=	10.9
	6/9/2014	24.5	0.4	=	24.9
	6/10/2014	92.7	0.1	=	92.8
	6/14/2014	118.9	0.4	=	119.3
	6/19/2014	44.7	0.4	=	45.1
	6/21/2014		0.3	=	0.3
	6/23/2014	36.7		=	36.7
	6/25/2014	44.0	0.3	=	44.3
	6/30/2014	21.6		=	21.6
	7/1/2014	32.1	0.2	=	32.3
	7/3/2014		0.2	=	0.2
	7/18/2014	2.0		=	2.0
	7/19/2014	106.8	0.2	=	107.0
	7/23/2014	4.0		=	4.0
	7/24/2014	22.3	0.2	=	22.5
	7/25/2014	29.2	0.2	=	29.4
	7/26/2014	36.6	0.1	=	36.7
	7/28/2014	31.5		=	31.5
	7/29/2014		0.4	=	0.4
	7/30/2014	96.7		=	96.7
	8/4/2014	46.6		=	46.6
	8/6/2014		0.1	=	0.1
	8/9/2014	92.6		=	92.6
	8/18/2014	12.6		=	12.6
	8/19/2014	71.2	0.2	=	71.4
	8/22/2014		0.5	=	0.5
	8/28/2014	22.3		=	22.3
	8/29/2014	22.2	0.1	=	22.3
	8/30/2014		0.2	=	0.2
	9/1/2014	17.9		=	17.9
	9/2/2014	31.4	0.1	=	31.5
	9/3/2014		0.1	=	0.1
	9/5/2014	33.5	0.2	=	33.7
	9/9/2014	34.2		=	34.2
	9/10/2014		0.2	=	0.2
	9/17/2014	13.0		=	13.0
	9/18/2014	28.0		=	28.0
	9/22/2014	50.4		=	50.4
267	9/24/2014		0.2	=	0.2

RWF = Pivot ON / Water ON
SWI = Pivot OFF/ Water ON
Day # = Day Number w/in Year

Total hrs = 1828.1 Hrs. = 1828.1 + 24.0 = 76.2 (24-hr) Days **

OnTrac total # hours run wet = 1848.0 Hrs.** = 1848.0 + 24.0 = 77.0 (24-hr) Days **

149 days between 04/28/14 & 09/24/14

** Difference has to do with rounding of time intervals

Div.Rate (cfs)	X	constant	X	# of 24 hr Days	=	Volume
Volume @ Diversion Rate of 8.2 cfs / 76.2 days =	8.20	1.9835	76.2	=		1239.4 afa
Volume @ Diversion Rate of 8.2 cfs / 149 days =	8.20	1.9835	149.0	=		2423.4 afa
Volume @ Decreed Rate 5.13 cfs / 76.2 days =	5.13	1.9835	76.2	=		775.4 afa
Volume @ Decreed Rate 5.13 cfs / 149 days =	5.13	1.9835	149.0	=		1516.1 afa

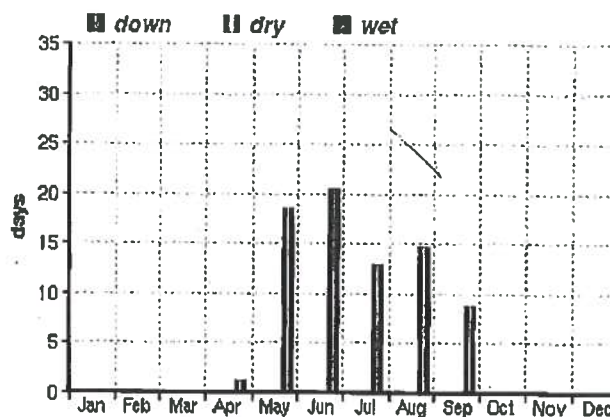
* Data Provided by Applicant

Rocky Mountain Environmental Associates Inc.
Prepared by Keith C. Wilson

ONTRAC
BY REMECReport: 01 Jan 14 - 31 Dec 14
** WD total # of hours run wet = 1848.0 *

status	description	days
RWF	pivot on / water on	76.71
SWI	pivot off / water on	0.3
RDF	pivot on / water bff	0.1
SD	pivot off / water off	216.1

some info missing from setup

Jeff Cook PUMP**ONTRAC**
BY REMEC**Jeff Cook****January 2014 pivot: PUMP**

no status changes

ONTRAC
BY REMEC**Jeff Cook****February 2014 pivot: PUMP**

no status changes

ONTRAC
BY REMEC**Jeff Cook****March 2014 pivot: PUMP**

no status changes

ONTRAC
BY REMEC**Jeff Cook****April 2014 pivot: PUMP**

status	date	time	hours	days
RDF	4/28	4:06 p	0.1	0.0
RWF	4/28	4:14 p	0.1	0.0
SD	4/28	4:23 p	0.4	0.0
RDF	4/28	4:46 p	0.1	0.0
RWF	4/28	4:50 p	0.8	0.0
SD	4/28	5:36 p	0.0	0.0
SWI	4/28	5:38 p	0.5	0.0

status	date	time	hours	days
SD	4/28	6:05 p	23.6	1.0
RDF	4/29	5:39 p	0.1	0.0
RWF	4/29	5:43 p	19.0	0.8
SWI	4/30	12:46 p	0.2	0.0
SD	4/30	12:59 p	0.8	0.0
RDF	4/30	1:50 p	0.1	0.0
RWF	4/30	1:53 p	20.3	0.8

ONTRAC
BY REMEC**Jeff Cook****May 2014 pivot: PUMP**

status	date	time	hours	days
SD	5/1	10:14 a	8.9	0.4
RDF	5/1	7:11 p	0.1	0.0
RWF	5/1	7:16 p	138.4	5.8
SWI	5/7	1:39 p	0.5	0.0
SD	5/7	2:11 p	52.8	2.2
RDF	5/9	6:57 p	0.1	0.0
RWF	5/9	7:01 p	79.1	3.3
SWI	5/13	2:09 a	0.4	0.0

status	date	time	hours	days
SD	5/13	2:35 a	80.6	3.4
RDF	5/16	11:13 a	0.0	0.0
RWF	5/16	11:15 a	123.6	5.2
SWI	5/21	2:52 p	0.1	0.0
SD	5/21	2:57 p	142.7	5.9
RDF	5/27	1:40 p	0.1	0.0
RWF	5/27	1:44 p	95.6	4.0
SWI	5/31	1:19 p	0.3	0.0
SD	5/31	1:34 p	46.9	2.0

ONTRAC
BY REMEC

Jeff Cook

June 2014 pivot: PUMP

status	date	time	hours	days
RDF	6/2	12:27 p	0.1	0.0
RWF	6/2	12:30 p	112.7	4.7
SWI	6/7	5:12 a	0.2	0.0
SD	6/7	5:22 a	6.3	0.3
RDF	6/7	11:41 a	0.1	0.0
RWF	6/7	11:45 a	10.6	0.4
SWI	6/7	10:20 p	0.1	0.0
SD	6/7	10:25 p	40.6	1.7
RDF	6/9	3:04 p	0.1	0.0
RWF	6/9	3:07 p	2.2	0.1
SWI	6/9	5:19 p	0.4	0.0
SD	6/9	5:45 p	0.5	0.0
RDF	6/9	6:17 p	0.1	0.0
RWF	6/9	6:20 p	22.3	0.9
SWI	6/10	4:37 p	0.1	0.0
SD	6/10	4:41 p	1.8	0.1
RDF	6/10	6:28 p	0.1	0.0
SD	6/10	6:31 p	0.4	0.0
RDF	6/10	6:57 p	0.1	0.0

status	date	time	hours	days
RWF	6/10	7:00 p	92.7	3.9
SWI	6/14	3:41 p	0.4	0.0
SD	6/14	4:03 p	0.2	0.0
RDF	6/14	4:13 p	0.1	0.0
RWF	6/14	4:17 p	118.4	4.9
SWI	6/19	2:39 p	0.4	0.0
SD	6/19	3:04 p	4.6	0.2
RDF	6/19	7:38 p	0.1	0.0
RWF	6/19	7:42 p	44.7	1.9
SWI	6/21	4:23 p	0.3	0.0
SD	6/21	4:43 p	43.1	1.8
RDF	6/23	11:49 a	0.0	0.0
RWF	6/23	11:51 a	36.7	1.5
SWI	6/25	12:35 a	0.3	0.0
SD	6/25	12:51 a	13.0	0.5
RDF	6/25	1:52 p	0.1	0.0
RWF	6/25	1:56 p	44.0	1.8
SD	6/27	9:57 a	78.5	3.3
RDF	6/30	4:28 p	0.1	0.0
RWF	6/30	4:32 p	21.6	0.9

ONTRAC

Jeff Cook

July 2014 pivot: PUMP

status	date	time	hours	days
SWI	7/1	2:08 p	0.2	0.0
SD	7/1	2:23 p	2.1	0.1
RDF	7/1	4:28 p	0.1	0.0
RWF	7/1	4:31 p	32.1	1.3
SWI	7/3	12:39 a	0.2	0.0
SD	7/3	12:49 a	381.4	15.9
RDF	7/18	10:15 p	0.1	0.0
RWF	7/18	10:20 p	2.0	0.1
SWI	7/19	12:23 a	0.2	0.0
SD	7/19	12:33 a	1.6	0.1
RDF	7/19	2:09 a	0.1	0.0
RWF	7/19	2:14 a	5.7	0.2
SWI	7/19	7:57 a	0.2	0.0
SD	7/19	8:10 a	2.7	0.1
RDF	7/19	10:51 a	0.1	0.0
RWF	7/19	10:54 a	101.1	4.2
SD	7/23	4:02 p	4.6	0.2
RDF	7/23	8:37 p	0.1	0.0
RWF	7/23	8:40 p	4.0	0.2

status	date	time	hours	days
SWI	7/24	12:38 a	0.2	0.0
SD	7/24	12:48 a	12.8	0.5
RDF	7/24	1:39 p	0.1	0.0
RWF	7/24	1:43 p	22.3	0.9
SWI	7/25	12:04 p	0.2	0.0
SD	7/25	12:16 p	1.2	0.1
RDF	7/25	1:30 p	0.1	0.0
RWF	7/25	1:33 p	29.2	1.2
SWI	7/26	6:45 p	0.1	0.0
SD	7/26	6:51 p	1.3	0.1
RDF	7/26	8:08 p	0.1	0.0
RWF	7/26	8:11 p	36.6	1.5
SD	7/28	8:50 a	7.5	0.3
RDF	7/28	4:21 p	0.1	0.0
RWF	7/28	4:25 p	31.5	1.3
SWI	7/29	11:57 p	0.4	0.0
SD	7/30	12:23 a	16.7	0.7
RDF	7/30	5:02 p	0.1	0.0
RWF	7/30	5:06 p	96.7	4.0

ONTRAC

Jeff Cook

August 2014 pivot: PUMP

status	date	time	hours	days
SD	8/3	5:45 p	17.3	0.7
RDF	8/4	11:01 a	0.1	0.0
SD	8/4	11:04 a	0.9	0.0
RDF	8/4	11:58 a	0.1	0.0
RWF	8/4	12:01 p	46.6	1.9
SWI	8/6	10:39 a	0.1	0.0
SD	8/6	10:42 a	79.8	3.3
RDF	8/9	6:28 p	0.1	0.0
RWF	8/9	6:32 p	92.6	3.9
RDF	8/13	3:06 p	0.0	0.0
RWF	8/13	3:08 p	21.0	0.9
SD	8/14	12:07 p	98.0	4.1
RDF	8/18	2:06 p	0.1	0.0
RWF	8/18	2:11 p	12.6	0.5

status	date	time	hours	days
SWI	8/19	2:47 a	0.2	0.0
SD	8/19	2:57 a	10.8	0.5
RDF	8/19	1:45 p	0.1	0.0
RWF	8/19	1:50 p	71.2	3.0
SWI	8/22	12:59 p	0.5	0.0
SD	8/22	1:27 p	141.3	5.9
RDF	8/28	10:43 a	0.1	0.0
RWF	8/28	10:47 a	22.3	0.9
SWI	8/29	9:03 a	0.1	0.0
SD	8/29	9:07 a	2.1	0.1
RDF	8/29	11:11 a	0.1	0.0
RWF	8/29	11:15 a	22.2	0.9
SWI	8/30	9:25 a	0.2	0.0
SD	8/30	9:39 a	52.9	2.2



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September 2014 pivot: PUMP

status	date	time	hours	days
RDF	9/1	2:33 p	0.1	0.0
RWF	9/1	2:37 p	17.9	0.7
SWI	9/2	8:33 a	0.1	0.0
SD	9/2	8:41 a	2.9	0.1
RDF	9/2	11:33 a	0.0	0.0
RWF	9/2	11:35 a	31.4	1.3
SWI	9/3	6:57 p	0.1	0.0
SD	9/3	7:06 p	39.5	1.6
RDF	9/5	10:34 a	0.1	0.0
RWF	9/5	10:39 a	0.6	0.0
SWI	9/5	11:12 a	0.2	0.0
SD	9/5	11:23 a	1.5	0.1
RDF	9/5	12:53 p	0.1	0.0
RWF	9/5	12:57 p	32.9	1.4

status	date	time	hours	days
SD	9/6	9:50 p	61.8	2.6
RDF	9/9	11:38 a	0.1	0.0
RWF	9/9	11:42 a	34.2	1.4
SWI	9/10	9:55 p	0.2	0.0
SD	9/10	10:05 p	159.3	6.6
RDF	9/17	1:24 p	0.1	0.0
RWF	9/17	1:28 p	13.0	0.5
SD	9/18	2:27 a	9.8	0.4
RDF	9/18	12:12 p	0.1	0.0
RWF	9/18	12:16 p	28.0	1.2
SD	9/19	4:17 p	68.4	2.9
RDF	9/22	12:41 p	0.1	0.0
RWF	9/22	12:45 p	50.4	2.1
SWI	9/24	3:11 p	0.2	0.0
SD	9/24	3:21 p	639.9	26.7



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October 2014 pivot: PUMP

status	date	time	hours	days
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status	date	time	hours	days
x	10/21	7:15 a	cur	cur



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November 2014 pivot: PUMP

no status changes



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December 2014 pivot: PUMP

no status changes