

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 1-10401
Exam Date: 06/10/2020

1. Current Owner:
US DEPT OF INTERIOR BUREAU OF RECLAMATION
1150 N CURTIS RD STE 100 BOISE ID 83706-1234

2. Accompanied by: None
Phone No:
Address:
Relationship to permit Holder:

3. **SOURCE:**
SNAKE RIVER

Tributary
COLUMBIA RIVER

Method of Determination: Dam is located on the Snake River, verified using aerial imagery

B. OVERLAP REVIEW

1. Other water rights with the same place of use: YES Overlap

Water Right No.	Source	Purpose of Use	Basis
1-2068	Snake River	Irrigation (from) Storage Power (from) Storage	Decreed 2/28/20
1-10621A	Snake River	Irrigation Storage	Decreed 2/28/20
1-10621B	Snake River	Irrigation Storage	Decreed 2/28/2020
1-10043	Snake River	Irrigation from Storage Power from Storage	Decreed 2/28/2020

Comments: Additional storage water covered under this right is water used to add additional head to drive power generation

2. Other water rights with the same point-of-diversion: YES Overlap
Same as Place of Use overlap

Comments: The point of diversion is the Palisades Dam. The previous location for the point of diversion under this right was shown to be the end of the penstock or the turbine location. However, all other overlapping storage rights show the point of diversion at the head of the dam. The point of diversion legal description will be amended through a licensing amendment to describe the head of the dam.

C. DIVERSION AND DELIVERY SYSTEM

1. **LOCATION OF POINT(S) OF DIVERSION:**
SNAKE RIVER SE¼ NE¼, Sec. 17, Twp 01S, Rge 45E, B.M. BONNEVILLE County

Method of Determination: Aerial imagery shows the location of the head of the dam. Digital PLSS mapping confirms the legal description shown above.

PLACE OF USE: POWER FROM STORAGE

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
01S	45E	17		X L2															

Method of Determination: The powerhouse is clearly shown in 2006 NAIP imagery. Digital PLSS mapping confirms the legal

description shown above.

3.

☒ Delivery System Diagram Attached (required). Indicate all major components and distances between components. Indicate weir size/pipe as applicable.

☒ Map Attached Showing Location(s) of point(s) of diversion and place(s) of use (required). Scale must be 1:24,000 or greater.

☒ Aerial Photo Attached (required for irrigation of 10+ acres).

☐ Photo of Diversion and System Attached

4.

Well or Diversion ID No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
N/A					

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
N/A						

2. Measurements:

None of the beneficial uses require the quantification of an instantaneous flow rate.

E. FLOW CALCULATIONS

☐ Additional Computation Sheets Attached

Measured Method:

Not Applicable

F. VOLUME CALCULATIONS

2. Volume Calculations for Other Uses:

Attachment A shows the change in reservoir storage throughout the development period for the Palisades Reservoir. Data was obtained from usbr.gov.

Attachment B shows cumulative water storage for the Palisades Reservoir throughout the 1 year development period. The total cumulative storage from 10/1/2005 to 6/29/2006 was 1,403,876 acre-feet.

Bureau of Rec. Storage Records:

1,403,876 acre-feet total
 - 1,200,000 acre-feet authorized under existing rights
203,876 acre-feet additional water stored

Permit = **157,000 acre-feet**

BU Exam Fee = \$600 => **no volume limitations**

Recommended Volume = 157,000 afa

G. NARRATIVE/REMARKS/COMMENTS

Permit 1-10401 was approved on July 18th, 2005 authorizing the storage 157,000 afa for power purposes. The same volume was authorized to be diverted from storage for power generation through the penstock into the turbine. Proof of Beneficial Use was submitted on June 29, 2006. I completed this field exam on June 10, 2020.

The point of diversion for this water right is the Palisades Dam, which impounds Snake River water on-stream. The permit describes the point of diversion location in the NWNE of Sec 17, T01S R45E at the powerhouse for the dam. There are four other water rights which allow storage (or use from storage) of water behind the dam. All of these describe the location of the point of diversion in the SENE of the same section, the centerpoint of the head of the dam. This water right will be amended at licensing to describe the POD in the same location as the overlapping water rights.

The place of use for Power from Storage is described as the powerhouse location where the turbine is housed. Aerial imagery from 2006 clearly shows the powerhouse location and digital PLSS mapping confirms that the POU should be described as Gov Lot 2 (NWNE) of Sec 17, T01S, R45E.

The place of use for the Power Storage component of the permit was not described on the permit, though it is implied that the place of use for storage is all of the water stored in the Palisades reservoir behind the dam. The water right license will not add a legal description for the Power Storage place of use component.

The permit authorized 157,000 acre-feet of additional storage behind the dam. The permit holder submitted water surface elevation data for the period of 10/01/2005 through 6/29/2006 as evidence of the volume stored during the development period. I was unable to translate this elevation data to volume stored without bathymetry data or an elevation-volume curve for the reservoir. However, I did find daily storage volume data from the USBoR website for the reservoir. The website did not give any indication as to the degree of error of the data. The daily volume data showed that a maximum of 1,166,857 acre-feet had been stored at one time during the development period. I calculated a cumulative storage volume from the daily data and found that a total of 1,403,875 acre-feet had been stored. The total cumulative storage volume was enough to account for the entire volume authorized under existing rights (1,200,000 af) and the additional volume authorized under this permit (157,000 af). I recommended the full permitted volume for the license.

Condition 2 of the permit required the permit holder to submit information demonstrating that the full permitted volume has been stored and that the volume "can be used for power generation purposes" at the time Proof is submitted. As I discuss above, the full volume has been clearly demonstrated. The permit holder also submitted a Reservoir Capacity Allocations document with the Proof. This document shows that the inlet of the penstock is at an elevation of 5380 ft, which is below the top of the dead zone. This shows that if the volume associated with this permit was the only stored water in the reservoir, it could still be diverted through the penstock for power generation. Condition 2 appears to have been fully satisfied.

Have conditions of permit approval been met? ☒ Yes ☐ No

H. RECOMMENDATIONS**1. Recommended Amounts**

Beneficial Use	Period of Use	Rate of Diversion	Annual Volume
POWER STORAGE	01/01 to 12/31		157,000.0 AF
POWER FROM STORAGE	01/01 to 12/31		157,000.0 AF

Totals:

157,000.0 AF

2. Recommended Amendments

☒ Change P.D. as reflected above ☐ Add P.D. as reflected above ☐ None

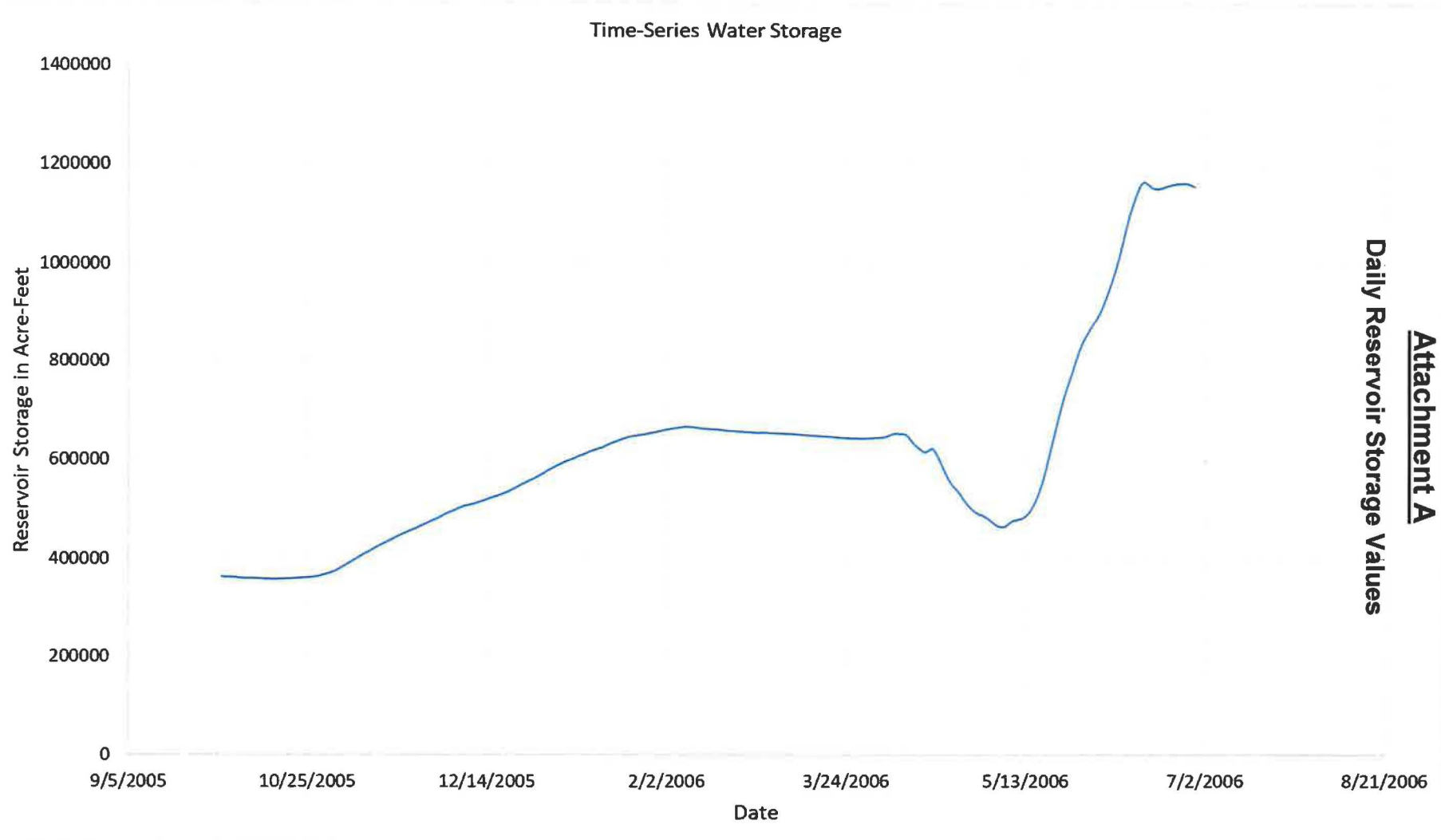
☐ Change P.U. as reflected above ☐ Add P.U. as reflected above ☐ None

I. AUTHENTICATION *Cody Parker* - Water Rights Supervisor

Field Examiner's Name *Cody Parker* Date _____

Reviewer *Angela M. Gunn* Date *8/21/2020*

Attachment A
Daily Reservoir Storage Values



DateTime	Palisades Storage (af)
10/1/2005	363919.7
10/2/2005	362888.7
10/3/2005	362888.7
10/4/2005	362717
10/5/2005	362202.8
10/6/2005	361347.3
10/7/2005	360494.1
10/8/2005	360494.1
10/9/2005	360410.6
10/10/2005	360240.4
10/11/2005	359987
10/12/2005	359729.8
10/13/2005	359389.5
10/14/2005	359136.6
10/15/2005	358627.5
10/16/2005	358627.5
10/17/2005	358880
10/18/2005	359136.6
10/19/2005	359476.7
10/20/2005	359559.6
10/21/2005	360157.4
10/22/2005	360581.2
10/23/2005	361176.3
10/24/2005	361605.6
10/25/2005	362119.3
10/26/2005	362717
10/27/2005	363487.7
10/28/2005	364692.9
10/29/2005	366853.1
10/30/2005	368592.1
10/31/2005	371036
11/1/2005	373672.9
11/2/2005	376689.5
11/3/2005	381072.4
11/4/2005	385235.5
11/5/2005	389538.5
11/6/2005	393794.1

11/7/2005	398192.3
11/8/2005	402603.4
11/9/2005	407147.9
11/10/2005	411203.3
11/11/2005	415112.2
11/12/2005	419152.1
11/13/2005	423423.3
11/14/2005	427544.6
11/15/2005	431038.2
11/16/2005	434662.9
11/17/2005	438408.1
11/18/2005	441900.2
11/19/2005	445611.4
11/20/2005	448958.7
11/21/2005	452302.4
11/22/2005	455390.9
11/23/2005	458593.1
11/24/2005	461724.5
11/25/2005	465069.3
11/26/2005	468532.9
11/27/2005	471732.3
11/28/2005	475149.5
11/29/2005	478490.7
11/30/2005	481758
12/1/2005	485448.2
12/2/2005	489669.2
12/3/2005	493112.4
12/4/2005	496356.4
12/5/2005	499154.6
12/6/2005	502163.6
12/7/2005	505875.2
12/8/2005	507645.1
12/9/2005	509223.3
12/10/2005	511198.5
12/11/2005	513385.4
12/12/2005	515679
12/13/2005	517982.9
12/14/2005	520800
12/15/2005	523330.2

12/16/2005	525672.8
12/17/2005	528121.6
12/18/2005	530687.4
12/19/2005	533679.1
12/20/2005	536789.6
12/21/2005	540342.8
12/22/2005	544547.6
12/23/2005	548562.8
12/24/2005	552188.5
12/25/2005	555534.9
12/26/2005	559106.7
12/27/2005	562390.1
12/28/2005	566628.3
12/29/2005	570684.8
12/30/2005	574672.5
12/31/2005	579319.3
1/1/2006	583038.8
1/2/2006	587002.6
1/3/2006	590776.7
1/4/2006	594246.1
1/5/2006	597302.8
1/6/2006	599985.9
1/7/2006	602806.7
1/8/2006	606061.2
1/9/2006	609013.6
1/10/2006	611663.9
1/11/2006	615070.9
1/12/2006	618071.9
1/13/2006	620761.6
1/14/2006	623246.2
1/15/2006	625199.5
1/16/2006	629118.9
1/17/2006	632183.6
1/18/2006	635376.3
1/19/2006	637919.3
1/20/2006	640586.4
1/21/2006	643597.4
1/22/2006	646058.4
1/23/2006	647522.7

1/24/2006	648985.3
1/25/2006	649772.5
1/26/2006	650903.5
1/27/2006	652489.1
1/28/2006	654041.3
1/29/2006	655350.3
1/30/2006	657100.4
1/31/2006	658522.5
2/1/2006	660388.4
2/2/2006	661710.1
2/3/2006	663034.4
2/4/2006	664248.3
2/5/2006	665464.5
2/6/2006	666466.3
2/7/2006	667463.6
2/8/2006	667241.6
2/9/2006	666574.6
2/10/2006	666130.4
2/11/2006	665021.1
2/12/2006	664027.4
2/13/2006	663255.8
2/14/2006	662813.9
2/15/2006	662592.7
2/16/2006	662151.3
2/17/2006	661381.8
2/18/2006	660281.1
2/19/2006	659728.2
2/20/2006	658961.5
2/21/2006	658415.5
2/22/2006	657976.8
2/23/2006	657425.9
2/24/2006	656987.9
2/25/2006	656550.1
2/26/2006	656006.1
2/27/2006	655462.5
2/28/2006	655680.6
3/1/2006	655569.1
3/2/2006	655350.3
3/3/2006	654807.3
3/4/2006	654695.1
3/5/2006	654152.6

3/6/2006	653716.8
3/7/2006	653499.3
3/8/2006	653170.8
3/9/2006	653053.9
3/10/2006	652489.1
3/11/2006	651693
3/12/2006	650903.5
3/13/2006	650450.6
3/14/2006	649662.6
3/15/2006	649547.1
3/16/2006	648985.3
3/17/2006	648418.4
3/18/2006	647967.9
3/19/2006	647522.7
3/20/2006	647072.8
3/21/2006	646507.5
3/22/2006	645833.5
3/23/2006	645275.7
3/24/2006	644603
3/25/2006	644378.7
3/26/2006	643930.3
3/27/2006	643821.4
3/28/2006	643482.9
3/29/2006	643706.9
3/30/2006	643930.3
3/31/2006	644378.7
4/1/2006	645051.1
4/2/2006	645384.8
4/3/2006	645949.1
4/4/2006	647298.1
4/5/2006	649662.6
4/6/2006	652943.5
4/7/2006	654258.9
4/8/2006	653053.9
4/9/2006	653281.3
4/10/2006	649436.6
4/11/2006	640586.4
4/12/2006	632183.6
4/13/2006	624981.9
4/14/2006	619578.2
4/15/2006	615712.8

4/16/2006	619793.9
4/17/2006	623135.3
4/18/2006	614325.1
4/19/2006	600088
4/20/2006	584108.3
4/21/2006	568810.6
4/22/2006	555534.9
4/23/2006	545920.3
4/24/2006	538667.6
4/25/2006	528531.8
4/26/2006	517782.2
4/27/2006	508727.6
4/28/2006	501679.2
4/29/2006	495356.3
4/30/2006	491185
5/1/2006	488359.7
5/2/2006	484447.2
5/3/2006	479083.1
5/4/2006	473292.3
5/5/2006	467953
5/6/2006	465453.4
5/7/2006	465354.8
5/8/2006	469888.3
5/9/2006	475542
5/10/2006	478490.7
5/11/2006	480169.5
5/12/2006	482252.8
5/13/2006	486950.9
5/14/2006	494539
5/15/2006	505875.2
5/16/2006	520903.5
5/17/2006	539504.6
5/18/2006	562596.4
5/19/2006	590670.9
5/20/2006	620866.6
5/21/2006	651356.1
5/22/2006	680591.8
5/23/2006	708928.8
5/24/2006	734177.1
5/25/2006	756870.6
5/26/2006	778409.6

5/27/2006	802260.6
5/28/2006	823992.3
5/29/2006	841629.3
5/30/2006	856047.8
5/31/2006	868830.9
6/1/2006	880442.9
6/2/2006	891114.6
6/3/2006	906076.3
6/4/2006	923604.5
6/5/2006	944174.7
6/6/2006	966218.8
6/7/2006	989122.8

6/8/2006	1014843
6/9/2006	1044117
6/10/2006	1073766
6/11/2006	1101285
6/12/2006	1123934
6/13/2006	1144799
6/14/2006	1160624
6/15/2006	1166857
6/16/2006	1162221
6/17/2006	1156175
6/18/2006	1153319
6/19/2006	1153000

6/20/2006	1154904
6/21/2006	1157446
6/22/2006	1159667
6/23/2006	1161581
6/24/2006	1162703
6/25/2006	1163499
6/26/2006	1163974
6/27/2006	1163179
6/28/2006	1160624
6/29/2006	1157446

Attachment B

Cumulative Reservoir Storage Values



DateTime	Cumulative Storage (af)
10/1/2005	363919.7
10/2/2005	363919.7
10/3/2005	363919.7
10/4/2005	363919.7
10/5/2005	363919.7
10/6/2005	363919.7
10/7/2005	363919.7
10/8/2005	363919.7
10/9/2005	363919.7
10/10/2005	363919.7
10/11/2005	363919.7
10/12/2005	363919.7
10/13/2005	363919.7
10/14/2005	363919.7
10/15/2005	363919.7
10/16/2005	363919.7
10/17/2005	364172.2
10/18/2005	364428.8
10/19/2005	364768.9
10/20/2005	364851.8
10/21/2005	365449.6
10/22/2005	365873.3
10/23/2005	366468.5
10/24/2005	366897.8
10/25/2005	367411.5
10/26/2005	368009.2
10/27/2005	368779.8
10/28/2005	369985.1
10/29/2005	372145.3
10/30/2005	373884.2
10/31/2005	376328.2
11/1/2005	378965.1
11/2/2005	381981.7
11/3/2005	386364.6
11/4/2005	390527.6
11/5/2005	394830.7
11/6/2005	399086.3
11/7/2005	403484.5
11/8/2005	407895.6

11/9/2005	412440.1
11/10/2005	416495.5
11/11/2005	420404.4
11/12/2005	424444.3
11/13/2005	428715.5
11/14/2005	432836.8
11/15/2005	436330.4
11/16/2005	439955.1
11/17/2005	443700.3
11/18/2005	447192.4
11/19/2005	450903.6
11/20/2005	454250.9
11/21/2005	457594.6
11/22/2005	460683.1
11/23/2005	463885.3
11/24/2005	467016.7
11/25/2005	470361.5
11/26/2005	473825.1
11/27/2005	477024.4
11/28/2005	480441.7
11/29/2005	483782.8
11/30/2005	487050.1
12/1/2005	490740.4
12/2/2005	494961.4
12/3/2005	498404.6
12/4/2005	501648.6
12/5/2005	504446.7
12/6/2005	507455.8
12/7/2005	511167.4
12/8/2005	512937.3
12/9/2005	514515.4
12/10/2005	516490.6
12/11/2005	518677.6
12/12/2005	520971.2
12/13/2005	523275.1
12/14/2005	526092.2
12/15/2005	528622.3
12/16/2005	530965
12/17/2005	533413.8
12/18/2005	535979.6
12/19/2005	538971.2

12/20/2005	542081.7
12/21/2005	545634.9
12/22/2005	549839.7
12/23/2005	553855
12/24/2005	557480.7
12/25/2005	560827.1
12/26/2005	564398.9
12/27/2005	567682.3
12/28/2005	571920.5
12/29/2005	575977
12/30/2005	579964.7
12/31/2005	584611.5
1/1/2006	588331
1/2/2006	592294.8
1/3/2006	596068.9
1/4/2006	599538.2
1/5/2006	602595
1/6/2006	605278.1
1/7/2006	608098.9
1/8/2006	611353.4
1/9/2006	614305.7
1/10/2006	616956.1
1/11/2006	620363.1
1/12/2006	623364.1
1/13/2006	626053.8
1/14/2006	628538.4
1/15/2006	630491.7
1/16/2006	634411.1
1/17/2006	637475.8
1/18/2006	640668.4
1/19/2006	643211.4
1/20/2006	645878.6
1/21/2006	648889.6
1/22/2006	651350.6
1/23/2006	652814.9
1/24/2006	654277.5
1/25/2006	655064.7
1/26/2006	656195.7
1/27/2006	657781.3
1/28/2006	659333.5
1/29/2006	660642.4

1/30/2006	662392.6
1/31/2006	663814.7
2/1/2006	665680.6
2/2/2006	667002.2
2/3/2006	668326.6
2/4/2006	669540.5
2/5/2006	670756.7
2/6/2006	671758.4
2/7/2006	672755.8
2/8/2006	672755.8
2/9/2006	672755.8
2/10/2006	672755.8
2/11/2006	672755.8
2/12/2006	672755.8
2/13/2006	672755.8
2/14/2006	672755.8
2/15/2006	672755.8
2/16/2006	672755.8
2/17/2006	672755.8
2/18/2006	672755.8
2/19/2006	672755.8
2/20/2006	672755.8
2/21/2006	672755.8
2/22/2006	672755.8
2/23/2006	672755.8
2/24/2006	672755.8
2/25/2006	672755.8
2/26/2006	672755.8
2/27/2006	672755.8
2/28/2006	672973.9
3/1/2006	672973.9
3/2/2006	672973.9
3/3/2006	672973.9
3/4/2006	672973.9
3/5/2006	672973.9
3/6/2006	672973.9
3/7/2006	672973.9
3/8/2006	672973.9
3/9/2006	672973.9
3/10/2006	672973.9
3/11/2006	672973.9

3/12/2006	672973.9
3/13/2006	672973.9
3/14/2006	672973.9
3/15/2006	672973.9
3/16/2006	672973.9
3/17/2006	672973.9
3/18/2006	672973.9
3/19/2006	672973.9
3/20/2006	672973.9
3/21/2006	672973.9
3/22/2006	672973.9
3/23/2006	672973.9
3/24/2006	672973.9
3/25/2006	672973.9
3/26/2006	672973.9
3/27/2006	672973.9
3/28/2006	672973.9
3/29/2006	673197.9
3/30/2006	673421.3
3/31/2006	673869.7
4/1/2006	674542.2
4/2/2006	674875.9
4/3/2006	675440.2
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4/5/2006	679153.7
4/6/2006	682434.6
4/7/2006	683750
4/8/2006	683750
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4/11/2006	683977.3
4/12/2006	683977.3
4/13/2006	683977.3
4/14/2006	683977.3
4/15/2006	683977.3
4/16/2006	688058.4
4/17/2006	691399.9
4/18/2006	691399.9
4/19/2006	691399.9
4/20/2006	691399.9
4/21/2006	691399.9

4/22/2006	691399.9
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