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SEP 06 2007
DEPT. OF WATER RESOURCES
SOUTHERN REGION

September 5, 2007

Mr. Allen Merritt
Idaho Department of Water Resources
1341 Fillmore Street, Suite 200
Twin Falls, ID 83301

Re: Beneficial Use Examination
37-20834, 37-8136, 37-8532 / Walker Sand & Gravel
Project No. 529-01-2001

Dear Allen:

Enclosed please find three (3) beneficial use field reports for the above-referenced permits, along with a narrative and supporting information. A Proof of Beneficial Use is included for 37-20834, which has a proof date of January 1, 2008. Proof was submitted in 1989 for 37-8136 and in 1993 for 37-8532, but the examinations have not been completed on these rights. Since all three rights are closely related and are best licensed concurrently, I am asking the Department to accept beneficial use reports for all three rights even though Proof has been filed on the older ones. I understand the Department has been allowing this in special cases where workload has precluded timely field exams.

Cordially,

for Charles E. Brockway, P.E.

Enc. Narrative and supporting information
Beneficial Use Field Report (3)
Cc: Jim Walker

CHARLES E. BROCKWAY, PH.D., P.E.

CHARLES G. BROCKWAY, PH.D., P.E.

2016 NORTH WASHINGTON STREET • SUITE 4

TWIN FALLS, IDAHO 83301

208•736•8543

FAX: 736•8506

RECEIVED
SEP 06 2007
DEPT. OF WATER RESOURCES
SOUTHERN REGION

Narrative for Beneficial Use Examination

Permit Nos. 37-20834, 37-8136, and 37-8532
Owner: Walker Sand and Gravel

Charles E. Brockway P.E.
Charles G. Brockway, P.E.
August 31, 2007

Overview and History

The three permits listed above are owned by Walker Sand & Gravel and are appurtenant to the quarry and processing facility located south of Bellevue, Idaho. The water is used for washing gravel and sand, washing trucks, filling water trucks, water supply for a shop, and general clean-up needs throughout the plant area. Information about current and historical water usage, and the history of water right transactions on the property has been gleaned from conversations with the owner and manager, and historical research from IDWR records.

Three (3) wells currently supply water for the operation. A buried water system is in place which ties together the three wells. The wells are known as the Shop Well, Crusher Well, and Valley Paving Well (aka the "VP Well"). Water has been used to some extent on the property since 1974. A timeline of well drilling history and water right permit history is provided in the table below:

Date	Activity
1974	Shop Well drilled, no log available. Water began to be used on the site.
6/1/1983	37-8136 applied for (1.0 cfs, lists one well, application map shows well near the crushers – probably the Shop Well)
5/18/1985	VP Well completed
3/8/1989	37-8136 Proof made
6/15/1989	Old Crusher Well completed
7/20/1989	37-8532 applied for (1.43 cfs, lists two wells, application map clearly shows Old Crusher Well and VP Well)
7/1/1993	37-8532 Proof made
11/15/2002	37-20834 applied for (3.47 cfs, lists four wells – Old Crusher Well, New Crusher Well, Shop Well, and VP Well)
6/16/2005	New Crusher Well completed, located 12 feet west of Old Crusher Well

Although Proof of Beneficial Use has been filed for both 37-8136 and 37-8532, the Department has not licensed these rights. Because these rights and 37-20834 are closely related, they should all be examined as a package and licensed together. Therefore, it is requested that the Department accept the field exarnination and measurements contained herein as the beneficial use exam for 37-8136 and 37-8532 in addition to 37-20834.

Recommended PODs

An examination of the timeline above indicates that both the Shop Well and VP Well had been constructed and were being used prior to the Proof filing for 37-8136. It is concluded that this right should include both wells via a licensing amendment, but it cannot include the Crusher Well.

Further examination of the timeline indicates that all three wells had been constructed and were being used prior to the Proof filing for 37-8532. It is concluded that this right should include all three wells via licensing amendment.

The newest right, 37-20834, lists four wells, including both the Old Crusher and New Crusher wells. The New Crusher Well was completed in 2005, and the pump from the Old Crusher Well installed in the new well. The owner originally intended to keep the old well as a backup, but at the time of the field exam the old well had no pump installed and was not tied into the water system. Therefore, it is recommended that one well be deleted from 37-20834 via licensing amendment.

Well Capacity Measurements

The New Crusher Well has a completed diameter of 16 inches, fully cased with perforated casing. The completed depth is 205 feet. The capacity of this well as connected to the system was measured on July 27, 2007. The installed pump is a 125 HP vertical turbine unit. The well was operated at its maximum condition according to the plant operator, which involved activating the main 10" pipe to the gravel washing system, and a 4" pipeline to the truck filling station. Discharge was measured with a Fuji Portaflow X ultrasonic meter. An excellent location was available on the 10" steel discharge line at least 5 diameters upstream and downstream of any bends or valves. The discharge pressure was 33.5 psi. Measured discharge was stable at 2465 gpm (5.49 cfs). The well was operated for 18.5 minutes.

The VP Well is an 8-inch fully-cased hole to a depth of 162 feet. A 24HP submersible pump is installed in the well. The capacity of this well was measured on August 6, 2003. The purpose for this measurement was the beneficial use exam for permit 37-20833, under which water from this well is used for irrigation purposes unrelated to the industrial operation. However, the discharge measurement is valid for purposes of 37-20834 licensing. The measured discharge was 258 gpm (0.57 cfs) on this date.

The Shop Well is the oldest well on the property and no drilling record exists. It appears to be an 8-inch well. The plant operator indicated that the depth is 94 feet and the pump

is set at 84 feet. The discharge line is 4" galvanized pipe, but no suitable measuring location is available (see photo). Therefore, the discharge was estimated by measuring the depth to water during pumping along with the discharge pressure to determine the total dynamic head (TDH). On August 24, 2007, the pumping level was measured at 74.4 feet with an electric probe, and the discharge pressure indicated by the existing gauge was 32 psi. The pump is connected to a series of pressure tanks, and 32 psi appears to be near the lowest operating pressure (close to the pump "on" setting). Therefore, using this value will yield the highest pump capacity for licensing purposes. TDH = 74.4 + 32(2.307) = 148 feet (neglecting velocity head). The pump is a Grundfos 150S100-5. Referring to the manufacturer's performance curve (attached), the discharge rate at a TDH of 148 feet is 178 gpm (0.40 cfs). This is the estimated capacity of the Shop Well.

Following is a summary of the well capacities:

New Crusher Well	5.49 cfs
VP Well	0.57 cfs
Shop Well	0.40 cfs
TOTAL	6.46 cfs

The allowed diversion rates on the permits sum to 5.90 cfs; however, 37-8136 covers only the Shop Well and VP Well and so must be limited to the sum of these capacities, or 0.97 cfs. All rights in combination would then be limited to 0.97 + 1.43 + 3.47 = 5.87 cfs.

Return Flow System

After being used for gravel and sand washing, truck cleaning, etc., water is discharged to an unlined gravel pit, where it infiltrates. While water is standing in the gravel pit, some amount of evaporation is occurring. According to the owner, water introduced to the pit infiltrates in less than 2 days. If so, evaporation should be minimal. Information in the file for 37-20834 indicates that the Department was able to grant this permit because any evaporation or other consumptive uses were covered by the pre-moratorium permits 37-8136 and 37-8532 which were not restricted as to consumptive use.

Recommended Licensing Amendments and Conditions

37-8136

Points of diversion:
NENWSW (Shop Well) and SENWSW (New Crusher Well).

Place of use:
Include SWSW and SESW, Section 24.

This right should be limited to 0.97 cfs from the two points of diversion listed above, 2.40 cfs in combination with 37-8532, and 5.87 cfs in combination with 37-8532 and 37-20834.

Recommend no annual volume limitation.

37-8532

Points of diversion:
SWNESW (VP Well), SENWSW (New Crusher Well), and NENWSW (Shop Well)

Place of use: OK

This right should be limited to 1.43 cfs from the three points of diversion listed above, and limited to 2.40 cfs in combination with 37-8136 and 5.87 cfs in combination with 37-8136 and 37-20834.

Recommend no annual volume limitation.

37-20834

Points of diversion:
SWNESW (VP Well), SENWSW (New Crusher Well), and NENWSW (Shop Well)

Place of use: OK

This right should be limited to 5.87 cfs in combination with 37-8136 and 37-8532.

Recommend no annual volume limitation.

App 8870080 New Crusher Well

Form 238-7
6/02

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

Office Use Only
Well ID No. _____
Inspected by _____
Twp ____ Rge ____ Sec ____
____ 1/4 ____ 1/4 ____ 1/4
Lat: : : Long: : :

1. WELL TAG NO. D 0034699
DRILLING PERMIT NO. 829835
Water Right or Injection Well No. 37-20834

2. OWNER:
Name Walker Sand & Gravel
Address P.O. Box 400
City Bellevue, State ID Zip 83313

3. LOCATION OF WELL by legal description:
You must provide address or Lot, Blk, Sub. or Directions to well.
Twp. 01 North ☒ or South ☐
Rge. 18 East ☒ or West ☐
Sec. 24, SE 1/4 (10 acres) NW 1/4 (40 acres) SW 1/4 (160 acres)
Gov't Lot _____ County _____
Lat: : : Long: : :
Address of Well Site 10716 Hwy. 75
(Give at least name of road + Distance to Road or Landmark) City Bellevue
Lt. _____ Blk. _____ Sub. Name _____

4. USE:
☐ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☒ Other Industrial

5. TYPE OF WORK check all that apply (Replacement etc.)
☒ New Well ☐ Modify ☐ Abandonment ☐ Other _____

6. DRILL METHOD:
☐ Air Rotary ☒ Cable ☐ Mud Rotary ☐ Other _____

7. SEALING PROCEDURES

Seal Material	From	To	Weight / Volume	Seal Placement Method
Bentonite	20	0	1250 lbs	Dry pour w/ hydration.

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 204'
Was drive shoe seal tested? ☐ Y ☒ N How? N/A

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
16	+1.75	205	?		☐	☐	☐	☐
16	117	205	.312	steel	☒	☐	☒	☐
16	+1.75	117	.375	steel	☒	☐	☒	☐

Length of Headpipe _____ Length of Tailpipe _____
Packer ☐ Y ☐ N Type N/A

9. PERFORATIONS/SCREENS PACKER TYPE
Perforation Method Torch
Screen Type & Method of Installation _____

From	To	Slot Size (W)	Number	Diameter (L)	Material	Casing	Liner
114	139	.250	300	8"	Steel	☒	☐
149	159	.250	120	8"	Steel	☒	☐
171	185	.250	168	8"	Steel	☒	☐

10. FILTER PACK

Filler Material	From	To	Weight / Volume	Placement Method
1/2" washed	20	36	1.5cy	from surface

11. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
48 ft. below ground Artesian pressure _____ lb.
Depth flow encountered _____ ft. Describe access port or control devices: _____
2" pipe @ ≈ 30° w/ cap

12. WELL TESTS:
☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time
To be completed.			

Water Temp. 49° Bottom hole temp. 50°
Water Quality test or comments: apparently good
Depth first Water Encounter 47'

13. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
20	0	8	Sand, gravel, & coarse cobbles		X
20	8	30	Sand & gravel		X
16	30	49	Sand & gravel		X
16	49	100	Sandy clay & gravel	X	
16	100	118	Sandy clay, some gravel		X
16	118	138	Sand & gravel	X	
16	138	147	Sandy clay w/ gravel	X	
16	147	165	Coarse gravel w/ sand	X	
16	165	170	Sand & gravel w/ clay	X	
16	170	177	Coarse gravel w/ sand	X	
16	177	189	Sand & gravel w/ clay	X	
16	189	203	Brn. sandy clay w/ gravel		X
16	203	205	Basalt, hard, black		X

RECEIVED
JUN 21 2005
Department of Water Resources
Southern Region

Completed Depth 205' (Measurable)
Date: Started 5/18/05 Completed 6/16/05

14. DRILLER'S CERTIFICATION
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Stan Lloyd Drilling, LLC Firm No. 294
Principal Driller Alan Lloyd Date 6/17/05
and
Driller or Operator II _____ Date _____
Operator I _____ Date _____

Principal Driller and Rig Operator *Required*.
Operator I must have signature of Driller/Operator II.

FORWARD WHITE COPY TO WATER RESOURCES

VP Well

Form 238-7
1/78

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

USE TYPEWRITER OR BALL POINT PEN

RECEIVED JUN 1 1985 Department of Water Resources Southern District Office

1. WELL OWNER

Name Valley Paving

Address Bellevue Idaho.

Owner's Permit No. _____

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement
☐ Abandoned (describe method of abandoning) _____

3. PROPOSED USE

☐ Domestic ☐ Irrigation ☐ Test ☐ Municipal
☒ Industrial ☐ Stock ☐ Waste Disposal or Injection
☐ Other _____ (specify type)

4. METHOD DRILLED

☐ Rotary ☐ Air ☐ Hydraulic ☐ Reverse rotary
☒ Cable ☐ Dug ☐ Other _____

5. WELL CONSTRUCTION

Casing schedule: ☒ Steel ☐ Concrete ☐ Other _____

Thickness	Diameter	From	To
.250 inches	8 inches +	1 feet	162 feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet

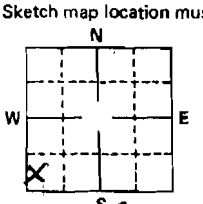
Was casing drive shoe used? ☒ Yes ☐ No
Was a packer or seal used? ☐ Yes ☒ No
Perforated? ☒ Yes ☐ No
How perforated? ☐ Factory ☐ Knife ☐ Torch
Size of perforation 1/4 inches by 1 1/2 inches

Number		From	To
120	perforations	110 feet	130 feet
40	perforations	155 feet	160 feet
_____	perforations	_____ feet	_____ feet

Well screen installed? ☐ Yes ☒ No
Manufacturer's name _____
Type _____ Model No. _____
Diameter ___ Slot size ___ Set from ___ feet to ___ feet
Diameter ___ Slot size ___ Set from ___ feet to ___ feet
Gravel packed? ☐ Yes ☒ No ☐ Size of gravel _____
Placed from _____ feet to _____ feet
Surface seal depth 18 Material used in seal: ☐ Cement grout ☒ Puddling clay ☐ Well cuttings
Sealing procedure used: ☐ Slurry pit ☒ Temp. surface casing ☐ Overbore to seal depth
Method of joining casing: ☐ Threaded ☒ Welded ☐ Solvent Weld ☐ Cemented between strata
Describe access port _____

6. LOCATION OF WELL

Sketch map location must agree with written location.



Subdivision Name _____
Lot No. _____ Block No. _____

County Blaine

SW ¼ SW ¼ Sec. 24, T. 1 (N.) S., R. 18 (E.) W.

7. WATER LEVEL

Static water level 54 feet below land surface.
Flowing? ☐ Yes ☒ No G.P.M. flow _____
Artesian closed-in pressure _____ p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature ____ °F. Quality _____

8. WELL TEST DATA

☐ Pump ☒ Bailer ☐ Air ☐ Other _____

Discharge G.P.M.	Pumping Level	Hours Pumped
150	100	1

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
8	0	15	Dirt and gravel		X
8	15	35	gravel and clay		X
8	35	80	gravel and clay		X
8	80	100	gravel set in clay with sand	X	
8	100	115	gravel and sand	X	
8	115	125	pea gravel and sand	X	
8	125	135	pea gravel and sand	X	
8	135	145	Corse sand and slit	X	
8	146	155	corse sand and slit	X	
8	155	162	large gravel and corse sand	X	

00280

RECEIVED JUL 12 1985 Department of Water Resources

MICROFILMED

10. Work started 5-3-85 finished 5-18-85

11. DRILLERS CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name Wood River Drilling + Pump Firm No. 265

Address Box 1165 Hailey Id Date 6-1-85

Signed by (Firm Official) Ken Smith

and

(Operator) Mark Smith

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

Old Crusher Well

Form 238-7
9-82

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

USE TYPEWRITER OR BALLPOINT PEN

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

1. WELL OWNER

Name Jim J. Walker dba Walker Sand & Gravel

Address P. O. Box 400 ~~Bellevue, ID 83313~~

Owner's Permit No. 37-89-S-014-200

2. NATURE OF WORK WR #37-08136

☒ New well ☐ Deepened ☒ Replacement
☐ Abandoned (describe abandonment procedures such as materials, plug depths, etc. in lithologic log)

3. PROPOSED USE

☐ Domestic ☐ Irrigation ☐ Test ☐ Municipal
☒ Industrial ☐ Stock ☐ Waste Disposal or Injection
☐ Other _____ (specify type)

4. METHOD DRILLED

☒ Rotary ☒ Air ☐ Hydraulic ☐ Reverse rotary
☐ Cable ☐ Dug ☐ Other _____

5. WELL CONSTRUCTION

Casing schedule: ☒ Steel ☐ Concrete ☐ Other _____

Thickness	Diameter	From	To
.250 inches	12 3/4 inches +	1 feet	168 feet

Was casing drive shoe used? ☒ Yes ☐ No
Was a packer or seal used? ☐ Yes ☒ No
Perforated? ☒ Yes ☐ No
How perforated? ☐ Factory ☒ Knife ☐ Torch
Size of perforation 1/4 inches by 1 1/2 inches

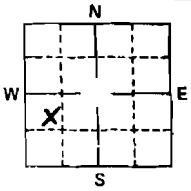
Number	From	To
720 perforations	110 feet	130 feet
480 perforations	145 feet	153 feet
perforations	feet	feet

Well screen installed? ☐ Yes ☒ No
Manufacturer's name _____
Type _____ Model No. _____
Diameter ___ Slot size ___ Set from ___ feet to ___ feet
Diameter ___ Slot size ___ Set from ___ feet to ___ feet
Gravel packed? ☐ Yes ☒ No ☐ Size of gravel _____
Placed from _____ feet to _____ feet
Surface seal depth 19 Material used in seal: ☐ Cement grout
☒ Bentonite ☐ Puddling clay ☐ _____
Sealing procedure used: ☐ Slurry pit ☒ Temp. surface casing
☒ Overbore to seal depth
Method of joining casing: ☐ Threaded ☒ Welded ☐ Solvent Weld
☐ Cemented between strata
Describe access port flange

MICROFILMED JUN 08 1990

6. LOCATION OF WELL

Sketch map location must agree with written location.



Subdivision Name _____

Lot No. _____ Block No. _____

County Blaine

NW ¼ SW ¼ Sec. 24, T. 1 N/S, R. 18 E/W.

7. WATER LEVEL

Static water level 44'5" feet below land surface.
Flowing? ☐ Yes ☒ No G.P.M. flow _____
Artesian closed-in pressure _____ p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature 49 °F. Quality _____
Describe artesian or temperature zones below.

8. WELL TEST DATA

☐ Pump ☐ Bailer ☒ Air ☐ Other _____

Discharge G.P.M.	Pumping Level	Hours Pumped
± 500 (Lots		

9. LITHOLOGIC LOG

Bore Diam.	Depth From	Depth To	Material	Water Yes	Water No
12	0	1	Gravel		
	1	7	Boulders & gravel		
	7	45	Small gravel & sand		
	45	50	Small gravel & sand	T	
	50	65	Clay & small gravel		
	65	70	Clay & a little coarser gravel	X	
	70	75	Clay & sand		
	75	108	Sandy clay, heaving	X	
	108	135	Gravel & sand	X	
	135	143	Sand & clay		
	143	155	Big coarse gravel	X	
	153	165	Clay, sand & gravel		
	165	170	Coarse gravel	X	

RECEIVED JUL 18 1989 Department of Water Resources Southern Region Office

RECEIVED JUL 17 1989 Department of Water Resources

10. Work started 6/9/89 finished 6/15/89

11. DRILLERS CERTIFICATION DL

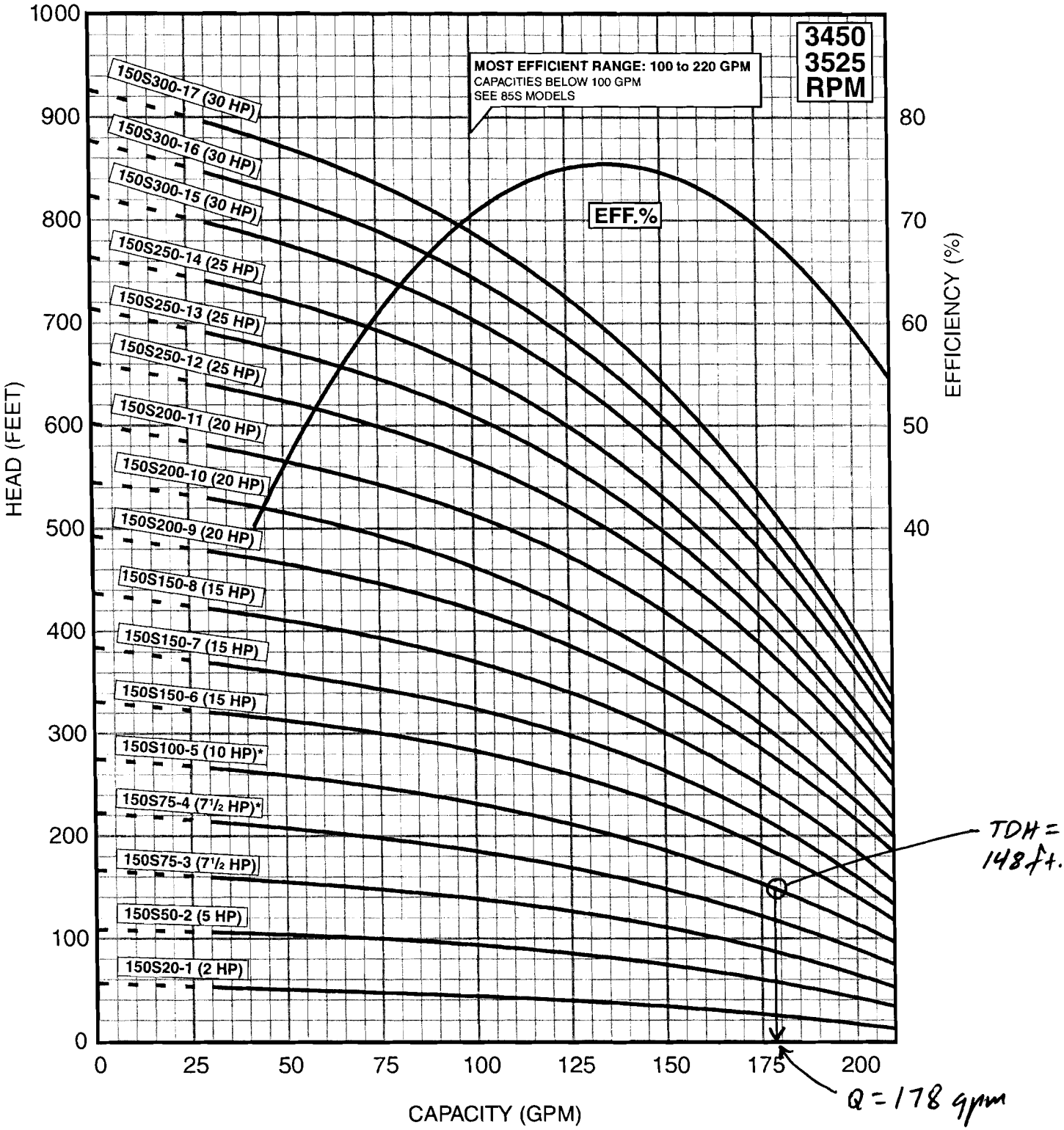
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name Walker Water Systems, Inc. Firm No. 15
Address ~~624 Pierce Street~~ Twin Falls, Idaho 83301 Date 6/23/89
Signed by (Firm Official) Lud Walker
and
(Operator) Lud Walker

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

PERFORMANCE CURVES 150 GPM Shop Well Pump MODEL 150S

FLOW RANGE: 30 -220 GPM **OUTLET SIZE: 3" NPT** **NOMINAL DIA. 6"**



SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.
4" MOTOR STANDARD, 2-10 HP/3450 RPM
6" MOTOR STANDARD, 7.5-60 HP/3450 RPM.
8" MOTOR STANDARD, 75 HP/3525 RPM.
* Alternate motor sizes available.

Performance conforms to ISO 9906 Annex A
@ 5 ft. min. submergence.