# Appendix A

Driller's Reports

USE TYPEWRITER OR BALL POINT PEN

State of Idaho
Department of Water Resources

ALPWS

# 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 Idaho Forest Industries

Address Garwood Idaho

Owner's Permit No. 95-77-N-165

**2. NATURE OF WORK**

☒ New well ☐ Deepened ☐ Replacement

☐ Abandoned (describe method of abandoning)

**3. PROPOSED USE**

☐ Domestic ☐ Irrigation ☐ Test ☐ Other (specify type)

☒ Municipal ☐ Industrial ☐ Stock ☐ Waste Disposal or Injection

**4. METHOD DRILLED**

☒ Cable ☐ Rotory ☐ Dug ☐ Other

**5. WELL CONSTRUCTION**

Diameter of hole 12 inches Total depth 348 feet

Casing schedule: ☒ Steel ☐ Concrete

| Thickness | Diameter | From | To |
|---|---|---|---|
| .330 inches | 12 inches | +2 feet | 331 feet |
| inches | inches | feet | 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 _____ inches by _____ inches

| Number | From | To |
|---|---|---|
| perforations | feet | feet |
| perforations | feet | feet |
| perforations | feet | feet |

Well screen installed? ☒ Yes ☐ No

Manufacturer's name U of P Johnson

Type Stainless Steel Model No. 304

Diameter 11½ Slot size 100 Set from 331 feet to 348 feet

Diameter ___ Slot size ___ Set from ___ feet to ___ feet

Gravel packed? ☐ Yes ☒ No Size of gravel _____

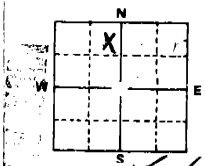
Placed from _____ feet to _____ feet

Surface seal depth 10± Material used in seal ☐ Cement grout ☒ Puddling clay ☐ Well cuttings

Sealing procedure used ☐ Slurry pit ☒ Temporary surface casing ☐ Overbore to seal depth

**6. LOCATION OF WELL**

Sketch map location must agree with written location.




Subdivision Name _____

Lot No. _____ Block No. _____

County Kootenai Circled below

NE ¼ NW ¼ Sec. 36, T. 52 N/S, R. 4 E/W

**7. WATER LEVEL**

Static water level 362 feet below land surface

Flowing? ☐ Yes ☒ No G.P.M. flow _____

Temperature _____ ° F. Quality _____

Artesian closed-in pressure _____ p.s.i.

Controlled by ☐ Valve ☐ Cap ☐ Plug

**8. WELL TEST DATA**

☐ Pump ☒ Bailer ☐ Other

| Discharge G.P.M. | Draw Down | Hours Pumped |
|---|---|---|
| 50 | 0 | 6 |

**9. LITHOLOGIC LOG**

| Hole Diam. | Depth From | Depth To | Material | Water Yes | Water No |
|---|---|---|---|---|---|
| 24 | 0 | 19 | Gravel Large | | / |
| 20 | 19 | 28 | Gravel & Boulders | | / |
| 16 | 28 | 41 | Boulders | | / |
| | 41 | 65 | Gravel Coarse w/ Boulders | | / |
| | 65 | 113 | Gravel Tight | | / |
| | 113 | 135 | Gravel Loose | | / |
| | 135 | 138 | Gravel Tight | | / |
| | 138 | 146 | Gravel Loose | | / |
| | 146 | 168 | Gravel Tight | | / |
| | 168 | 334 | Gravel & minus | | / |
| | 334 | 362 | Gravel | | / |
| | 362 | | water | / | |
| | 362 | 369 | Gravel | | / |
| | 369 | 399 | Gravel & Clay | | / |
| | 399 | 306 | Clay Brown w/ Sand Gravel | | / |
| | 306 | 308 | Gravel | | / |
| | 308 | 320 | Gravel w/ Some Clay | | / |
| | 320 | 348 | Gravel Clean & Coarse | | / |

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RECEIVED DEC 28 1977 Department of Water Resources Northern District Office

**10.**

Work started Oct 31-1977 finished Dec 27-1977

**11. DRILLERS CERTIFICATION**

Firm Name E A Holman Drilling Co Firm No. 105

Address Colville Rd Spokane Wash Date 12/28/77

Signed by (Firm Official) J. A. Holman

and

(Operator) Gene Phaney

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

ATH2

RECEIVED

MAR 29 1968

Department of Reclamation

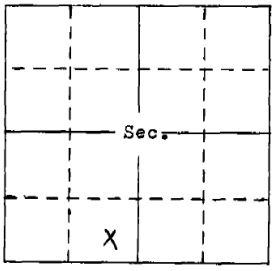
REPORT OF WELL DRILLER
State of Idaho

State law requires that this report shall be filed with the State Reclamation Engineer within 30 days after completion or abandonment of the well.

WELL OWNER:
Name CITY OF ATHOL
Address ATHOL IDAHO
96-68-N-2
Owner's Permit No. 96-7021
NATURE OF WORK (check): Replacement well ☐
New well ☒ Deepened ☐ Abandoned ☐
Water is to be used for: MUNICIPAL
METHOD OF CONSTRUCTION: Rotary ☐ Cable ☒
Dug ☐ Other (explain)
CASING SCHEDULE: Threaded X Welded
12 "Diam. from +2 ft. to [redacted] ft.
"Diam. from ft. to 391.8 ft.
"Diam. from ft. to ft.
"Diam. from ft. to ft.
Thickness of casing: .330 Material:
Steel ☒ concrete ☐ wood ☐ other ☐
(explain)
PERFORATED? Yes ☐ No ☒ Type of perforator used:
Size of perforations: " by "
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.
WAS SCREEN INSTALLED? Yes ☒ No ☐
Manufacturer's name JOHNSON
Type STAINLESS Model No. TELESCOPE
Diam. 12" Slot size 110 Set from 390 ft. to 410 ft.
Diam. Slot size Set from ft. to ft.
CONSTRUCTION: Well gravel packed? Yes ☐
No. ☒ size of gravel Gravel placed from ft. to ft. Surface seal provided? Yes ☒ No ☐ To what depth? ft. Material used in seal: BENTONITE SLURRY 20 TO 100 FT CEMENT GROUT 10 TO 20 FT
Did any strata contain unusable water? Yes ☐
No. ☒ Type of water:
Depth of strata ft. Method of sealing strata off:

Surface casing used? Yes ☒ No. ☐
Cemented in place? Yes ☐ No ☒

Locate well in section




LOCATION OF WELL: County KOOTENAI
SE ¼ SW ¼ Sec. 9 T. 53 N/S R. 3 E/W

Size of drilled hole: 12" Total depth of well: 410 Standing water level below ground: 341.6 Temp. Fahr. 45 ° Test delivery: 1000 gpm or cfs Pump? ☐ Bail ☐
Size of pump and motor used to make test: 8"x10" BOWLS 450 H.P. ENGINES
Length of time of test: 8 Hrs. Min.
Drawdown: 3.6 ft. Artesian pressure: ft. above land surface Give flow cfs or gpm. Shutoff pressure:
Controlled by: Valve ☐ Cap ☐ Plug ☐
No control ☐ Does well leak around casing? Yes ☐ No ☐

| DEPTH FROM FEET | DEPTH TO FEET | MATERIAL | WATER YES OR NO |
|---|---|---|---|
| 0 | 43 | GRAVEL 2" MINUS | NO |
| 43 | 91 | GRAVEL + BOULDERS TO 18" | NO |
| 91 | 128 | GRAVEL 1" MINUS | NO |
| 128 | 131 | BOULDERS | NO |
| 131 | 290 | GRAVEL 2" MINUS | NO |
| 290 | 306 | GRAVEL + BOULDERS | NO |
| 306 | 330 | GRAVEL 1" MINUS | NO |
| 330 | 344 | GRAVEL 1" MINUS CEMENTED | NO |
| 344 | 350 | BOULDERS | NO |
| 350 | 365 | GRAVEL ½" MINUS CEMENTED | YES |
| 365 | 389 | GRAVEL ½ MINUS | YES |
| 389 | 395 | GRAVEL ½ MINUS LOOSE | YES |
| 395 | 402 | BOULDERS + GRAVEL 2" MINUS | YES |
| 402 | 410 | GRAVEL ½" MINUS | YES |

Work started: NOV 30 1967
Work finished: FEB 13 1968
Well Driller's Statement: This well was drilled under my supervision and this report is true to the best of my knowledge.
Name: HOLMAN DRILLING CORP.
Address: E 3410 9TH SPOKANE WASH.
Signed by: Arnold E. Holman PRES
License No. 108 Date: MARCH 14 1968

Use other side for additional remarks

USGS

Form 238-7
4/92

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

RECEIVED MAR 24 1993

USE TYPEWR BALLPOIN

BTRE

# 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 KEN RICKEL

Address PO BOX 1261 HAYDEN LAKE ID 83835

Drilling Permit No. 96-92-N-278

Water Right Permit No. _____

**2. NATURE OF WORK**

☒ New well ☐ Deepened ☐ Replacement
☐ Well diameter increase ☐ Modification
☐ Abandoned (describe abandonment or modification procedures such as liners, screen, materials, plug depths, etc. in lithologic log, section 9.)

**3. PROPOSED USE**

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

**4. METHOD DRILLED**

☐ Rotary ☒ Air ☐ Auger ☐ Reverse rotary
☐ Cable ☐ Mud ☐ Other _____ (backhoe, hydraulic, etc.)
Surges & Bailed 1-28-93

**5. WELL CONSTRUCTION**

Casing schedule: ☒ Steel ☐ Concrete ☐ Other _____

| Thickness | Diameter | From | To |
|---|---|---|---|
| .250 inches | 10 inches | + 1 feet | 200 feet |
| .250 inches | 8 inches | 1 1/2 feet | 447 feet |
| _____ inches | _____ inches | _____ feet | _____ feet |

Was casing drive shoe used? ☒ Yes ☐ No 10"/8" odex
Was a packer or seal used? ☐ Yes ☒ No
Perforated? ☒ Yes ☐ No
How perforated? ☐ Factory ☒ Knife ☐ Torch ☐ Gun
Size of perforation? 1 inches by 1/4 inches

| Number | From | To |
|---|---|---|
| 390 perforations | 417 feet | 443 feet |
| _____ perforations | _____ feet | _____ feet |
| _____ perforations | _____ feet | _____ feet |

Well screen installed? ☐ Yes ☒ No
Manufacturer _____ Type _____
Top Packer or Headpipe _____
Bottom of Tailpipe _____

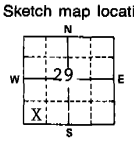
Diameter ____ Slot size ____ Set from ____ feet to ____ feet
Diameter ____ Slot size ____ Set from ____ feet to ____ feet
Gravel packed? ☐ Yes ☒ No ☐ Size of gravel _____
Placed from _____ feet to _____ feet

Surface seal depth 60 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 _____

**6. LOCATION OF WELL**

Sketch map location **must** agree with written location.




Subdivision Name _____

Lot No. _____ Block No. _____

County KOOTENAI

Address of Well Site _____ (give at least name of road)

SW ¼ SW ¼ Sec. 29, T. 53 N ☒ or S ☐, R. 3 E ☐ or W ☒

**7. WATER LEVEL**

Static water level 381 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 _____
*Describe artesian or temperature zones below.*

**8. WELL TEST DATA**

☐ Pump ☐ Bailer ☒ Air ☐ Other _____

| Discharge G.P.M. | Pumping Level | Hours Pumped |
|---|---|---|
| 30+ | 444' | 1 |
| | | |
| | | |

104582

**9. LITHOLOGIC LOG**

| Bore Diam. | Depth From | Depth To | Material | Water Yes | Water No |
|---|---|---|---|---|---|
| 12 | 0 | 60 | SAND, GRAVEL, BOULDERS | | X |
| 10 | 60 | 200 | SAND, GRAVEL, BOULDERS | | X |
| 10 | 200 | 447 | SAND, GRAVEL, BOULDERS | X | |

Permit states section 33
LOG states section 29

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FEB 01 1993
NORTHERN REGION
IDWR

**10.**

Work started 12-03-92 finished 12-07-92

**11. DRILLER'S CERTIFICATION**

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

Firm Name H2O WELL SERVICE Firm No. 448

Address 582 W HAYDEN AVE Date 12-07-92

Signed by Drilling Supervisor _____

and

(Operator) _____ (If different than the Drilling Supervisor)

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

C4SW

RECEIVED
MAR 27 1968
Department of Reclamation

ENT'D

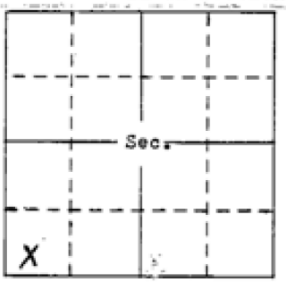
REPORT OF WELL DRILLER
State of Idaho

State law requires that this report shall be filed with the State Reclamation Engineer within 30 days after completion or abandonment of the well.

WELL OWNER:
Name IDAHO WATER CO.
Address COEUR d'ALENE IDAHO
95-60-N-3-1
Owner's Permit No. G 28886
NATURE OF WORK (check): Replacement well ☐ New well ☐ Deepened ☒ Abandoned ☐
Water is to be used for: MUNICIPAL
METHOD OF CONSTRUCTION: Rotary ☐ Cable ☒ Dug ☐ Other ____ (explain)
CASING SCHEDULE: Threaded ☐ Welded ☒
18 "Diam. from 175 ft. to 206 ft.
18 "Diam. from 226 ft. to 250 ft.
____ "Diam. from ____ ft. to ____ ft.
____ "Diam. from ____ ft. to ____ ft.
Thickness of casing: .375 Material:
Steel ☒ concrete ☐ wood ☐ other ☐ (explain)
PERFORATED? Yes ☐ No ☒ Type of perforator used: ____
Size of perforations: ____ " by ____ "
____ perforations from ____ ft. to ____ ft.
____ perforations from ____ ft. to ____ ft.
____ perforations from ____ ft. to ____ ft.
____ perforations from ____ ft. to ____ ft.
WAS SCREEN INSTALLED? Yes ☒ No ☐
Manufacturer's name JOHNSON
Type ARMCO IRON Model No. PIPE SIZE
Diam. 18" Slot size 60 Set from 206 ft. to 226 ft.
Diam. 12" Slot size VARIOUS Set from 250 ft. to 309 ft.
CONSTRUCTION: Well gravel packed? Yes ☒ No. ☐ size of gravel 3/4" MINUS Gravel placed from 176 ft. to 216 ft. Surface seal provided? Yes ☒ No ☐ To what depth? ____ ft. Material used in seal: SEALED WITH CEMENT 175 TO 176
Did any strata contain unusable water? Yes ☐ No. ☒ Type of water: ____
Depth of strata ____ ft. Method of sealing strata off: ____

Surface casing used? Yes ☐ No. ☒
Cemented in place? Yes ☐ No ☐

Locate well in section




LOCATION OF WELL: County KOOTENAI
SW¼ SW¼ Sec. 1 T. 50 (N) S R. 4 E (W)

Size of drilled hole: 20" Total depth of well: 309 Standing water level below ground: 185 Temp. Fahr. 56 ° Test delivery: 3500 gpm or ____ cfs Pump? ☒ Bail ☐
Size of pump and motor used to make test: 12"X14" BOWLS 450 H.P. ENGINES
Length of time of test: 4 Hrs. ____ Min.
Drawdown: 20.1 ft. Artesian pressure: ft. above land surface ____ Give flow ____ cfs or ____ gpm. Shutoff pressure: ____
Controlled by: Valve ☐ Cap ☐ Plug ☐
No control ☐ Does well leak around casing? Yes ☐ No ☐

| DEPTH FROM FEET | DEPTH TO FEET | MATERIAL | WATER YES OR NO |
|---|---|---|---|
| 0 | 216 | DONE BY OTHERS. | |
| 216 | 226 | SAND (MED) | YES. |
| 226 | 244 | CLAY (BROWN) | NO |
| 244 | 309 | SAND (MED) | YES. |

Work started: FEB 15 1968
Work finished: MARCH 19 1968
Well Driller's Statement: This well was drilled under my supervision and this report is true to the best of my knowledge.
Name: HOLMAN DRILLING CORP
Address: E 3410 9TH SPOKANE WH.
Signed by: Arnold E. Holman PRES.
License No. 108 Date: MARCH 26 1968

Use other side for additional remarks

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NORTH... REGION

Form 238-7
3/95

IDAHO DEPARTMENT OF WATER RESOURCES
# WELL DRILLER'S REPORT
Use Typewriter or Ballpoint Pen

097117

Office Use Only
Inspected by _____
Twp____ Rge____ Sec____
____1/4____1/4____1/4
Lat: : : Long: : :

**1. DRILLING PERMIT NO.** 95-96-__-N-71
Other IDWR No. 95-08938

**2. OWNER:**
Name CITY OF COEUR d'ALENE
Address 710 MULLAN AVE
City COEUR d'ALENE State ID Zip 83814

**3. LOCATION OF WELL by legal description:**
Sketch map location must agree with written location.

N / W / E / S

Twp. 51 North ☒ or South ☐
Rge. 4 East ☐ or West ☒
Sec. 36 SE 1/4 (10 acres) SE 1/4 (40 acres) SW 1/4 (160 acres)
Gov't Lot ____ County ____
Lat: : : Long: : :
Address of Well Site KATHLEEN + 4TH ST City COEUR d'ALENE
(Give at least name of road + Distance to Road or Landmark)

Lt. ____ Blk. ____ Sub. Name ____

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

**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/FILTER PACK Material | From | To | AMOUNT Sacks or Pounds | METHOD |
|---|---|---|---|---|
| NEAT CEMENT | 0 | 20 | 3 yds | TEMP. CASING |
| | | | | |
| | | | | |

Was drive shoe used? ☒Y ☐N Shoe Depth(s) 228
Was drive shoe seal tested? ☐Y ☒N How? ____

**8. CASING/LINER:**

| Diameter | From | To | Gauge | Material | Casing | Liner | Welded | Threaded |
|---|---|---|---|---|---|---|---|---|
| 22" | 208 | 218 | .375 | STEEL | ☐ | ☒ | ☒ | ☐ |
| 22 | 271 | 291 | .375 | STEEL | ☐ | ☒ | ☒ | ☐ |
| | | | | | ☐ | ☐ | ☐ | ☐ |

Length of Headpipe 10 FT Length of Tailpipe 20 FT

**9. PERFORATIONS/SCREENS**
☐ Perforations Method ____
☒ Screens Screen Type TELESCOPE X-HEAVY

| From | To | Slot Size | Number | Diameter | Material | Casing | Liner |
|---|---|---|---|---|---|---|---|
| 218 | 231 | 80-100 | 80-100 | 22 | S. STEEL | ☐ | ☒ |
| 231 | 271 | 100-50 | 100-50 | 22 | S. STEEL | ☐ | ☒ |
| | | | | | | ☐ | ☐ |

**10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:**
191 ft. below ground Artesian pressure ____ lb.
Depth flow encountered ____ ft. Describe access port or control devices: 2" PIPE + THREADED CAP

**11. WELL TESTS:**
☒ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

| Yield gal./min. | Drawdown | Pumping Level | Time |
|---|---|---|---|
| 1000 | 9' 10" | 200' 10" | 2 HR |
| 2000 | 20' 11" | 211' 11" | 1 HR |
| 2500 | 34' 6" | 225' 6" | 8 HR |

Water Temp. 51° Bottom hole temp. 51°
Water Quality test or comments: GOOD
Depth first Water Encountered 207

**12. LITHOLOGIC LOG:** (Describe repairs or abandonment)

| Bore Dia. | From | To | Remarks: Lithology, Water Quality & Temperature | Water Y | Water N |
|---|---|---|---|---|---|
| 30 | 0 | 20 | SAND + GRAVEL 3" MINUS | | X |
| 24 | 20 | 65 | SAND + GRAVEL 4" MINUS | | X |
| 24 | 65 | 148 | SAND MED + GRAVEL 1" MINUS | | X |
| 24 | 148 | 165 | SAND MED TO FINE | | X |
| 24 | 165 | 191 | SANDY CLAY BRN | | X |
| 24 | 191 | 207 | SANDY CLAY BLU | | X |
| 24 | 207 | 210 | SAND MED TO FINE | X | |
| 24 | 210 | 224 | SAND + GRAVEL ½" MINUS | X | |
| 24 | 224 | 230 | SAND + GRAVEL 2" MINUS | X | |
| 24 | 230 | 255 | SAND + GRAVEL ½" MINUS | X | |
| 24 | 255 | 271 | SAND COARSE | X | |
| 24 | 271 | 273 | SAND + GRAVEL ½" MINUS | X | |
| 24 | 273 | 275 | SAND FINE + GRAY CLAY | | X |
| 24 | 275 | 293 | SANDY CLAY - GRAY | | X |
| 24 | 293 | 300 | SANDY CLAY - BRN | | X |

Completed Depth 291 (Measurable)
Date: Started 7-8-96 Completed 11-15-96

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

Firm Name HOLMAN DRILLING CORP Firm No. 108
Firm Official Arnold E. Holman Date 12-13-96
and
Supervisor or Operator [signature] Date 12/13/96
(Sign once if Firm Official & Operator)

SESESW 36 51N 4W

FORWARD WHITE COPY TO IDAHO DEPARTMENT OF WATER RESOURCES

CLAW

Form 238-7
7/98
Starships Consulting and Management Services

# IDAHO DEPARTMENT OF WATER RESOURCES

# WELL DRILLER'S REPORT

RECEIVED NOV 25 2003

Office Use Only
Inspected by_____
Twp_____Rge_____ Sec_____
_____1/4_____1/4_____1/4
Lat: : : Long: : :

**1. WELL TAG NO.** D0033267
Drilling Permit No: 807836
Other IDWR No. IDWR/North

**2. OWNER** **Well Number:**
Name CITY OF CDA / JUB ENGINEERS #3 678
Address 7825 MEADOWLARK WAY
City COEUR D' ALENE State ID Zip 83815

**3. LOCATION OF WELL by legal description**
sketch map location must agree with written location

N / W / E / S — X

Twp. 51n ☑ North or ☐ South
Rge. 4W ☐ East or ☑ West
Sec. 28 1/4 NE 1/4 NE 1/4
Gov't Lot _____ County KOOTENAI
Lat: : : Long: : :
Address of Well Site ATLAS & PRARIE City CDA
(Give at least name of road + Distance to Road or Landmark)
Lt._____ Blk. _____ Sub. Name _____

**4. USE:**
☐ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☑ Other TEST

**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/FILTER PACK Material | From | To | AMOUNT Sacks or Pounds | METHOD |
|---|---|---|---|---|
| DRY GRANULE | | | | |
| BENTONITE | 0 | 20 | 14 BAGS | BORED |
| | | | | |

Was drive shoe used? ☑ Y ☐ N Shoe Depth(s) 450'
Was drive shoe seal tested? ☐ Y ☑ N How? _____

**8. CASING/LINER:**

| Diameter | From | To | Gauge | Materi | Casing | Liner | Welded | Threaded |
|---|---|---|---|---|---|---|---|---|
| 6 | +2 | 450 | .250 | STEEL | ☑ | ☐ | ☑ | ☐ |
| | | | | | | | | |
| | | | | | | | | |

Length of Headpipe _____ Length of Tailpipe _____

**9. PERFORATIONS/SCREENS**
☑ Perforations Method PERFORATOR
☐ Screens Screen Type

| From | To | Slot Size | Number | Diameter | Material | Casing | Liner |
|---|---|---|---|---|---|---|---|
| 420 | 440 | 1/2 X 1/4 | 480 | 6 | STEEL | ☑ | ☐ |
| | | | | | | | |

**10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:**
300 ft. below ground Artesian pressure _____ lb.
Depth flow encountered 440 ft. Describe access port or control devices: _____

51N 4W 28

**11. WELL TESTS:**
☐ Pump ☐ Bailer ☑ Air ☐ Flowing Artesian

| Yield gal./min. | Drawdown | Pumping Level | Time |
|---|---|---|---|
| 80+ | | 450 | 1 HR |
| | | | |
| | | | |

Water Temp. COLD Bottom Hole Temp COLD
Water Quality test or comments: GOOD
Depth first Water encountered 420

**12. LITHOLOGIC LOG:(Describe repairs or abandonment)**

| Bore Diam | From | To | Remarks: Lithology, Water Quality, Temperature | Water Y | Water N |
|---|---|---|---|---|---|
| 8 | 0 | 13 | Top Soil w/ Gravel | ☐ | ☐ |
| 8 | 13 | 61 | Sand & 3/8 minus Gravel | ☐ | ☐ |
| 8 | 61 | 215 | Gravel & Sand w/ Soil Seams | ☐ | ☐ |
| 8 | 215 | 300 | Sand & Gravel | ☐ | ☐ |
| 8 | 300 | 450 | Gravel & Sand with Water | ☑ | ☐ |

Completed Depth 450 (Measurable)
Date: Started 10/21/03 Completed 10/23/03

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

Firm Name H20 WellService Inc. Firm No. 448
Firm Official [signature] Date 10/31/03
and
Supervisor or Operator [signature] Date 10/30/03
(Sign Once if Firm Offical and Operator)

(Louie Hanner)

CHSA

Form 238-7
7/94

POSTED

# IDAHO DEPARTMENT OF WATER RESOURCES
# WELL DRILLER'S REPORT

Use Typewriter or Ball Point Pen

95-94-N-0257-000

**1. DRILLING PERMIT NO.** 95 - 94 - N - 0257 - 000
Other IDWR No. 95-07827

**2. OWNER:**
Name HAYDEN PINES WATER CO
Address PO BOX 992
City HAYDEN State ID Zip 83835

**3. LOCATION OF WELL by legal description:**
Sketch map location must agree with written location.

N / W / E / S — X

Twp. 52 North ☒ or South ☐
Rge. 03 East ☐ or West ☒
Sec. 07, SE (10 acres) 1/4 SE (40 acres) 1/4 NE (160 acres) 1/4
Gov't Lot ____ County KOOTENAI

Address of Well Site ACROSS STREET FROM
21800 ESTATES DR City ATHOL
(Give at least name of road + Distance to Road or Landmark)

Lt. ____ Blk. ____ Sub. Name CHILCO ESTATES

**4. PROPOSED USE:**
☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other ____

**5. TYPE OF WORK**
☒ New Well ☐ Modify or Repair ☐ Replacement ☐ Abandonment

**6. DRILL METHOD**
☐ Mud Rotary ☒ Air Rotary ☐ Cable ☐ Other ____

**7. SEALING PROCEDURES**

| SEAL/FILTER PACK | | | AMOUNT | METHOD |
|---|---|---|---|---|
| Material | From | To | Sacks or Pounds | |
| CEMENT | 0 | 80 | 300 LBS | SLURRY |
| | | | | |
| | | | | |

Was drive shoe used? ☐ Y ☒ N Shoe Depth(s) ____
Was drive shoe seal tested? Y ☐ N ☒ How? ____

**8. CASING/LINER:**

| Diameter | From | To | Gauge | Material | Casing | Liner | Welded | Threaded |
|---|---|---|---|---|---|---|---|---|
| 12 | +2 | 147 | .250 | STEEL | ☒ | ☐ | ☒ | ☐ |
| | | | | | ☐ | ☐ | ☐ | ☐ |
| | | | | | ☐ | ☐ | ☐ | ☐ |

Length of Headpipe ____ Length of Tailpipe ____

**9. PERFORATIONS/SCREENS**
☒ Perforations Method SAW CUT
☐ Screens Screen Type ____

| From | To | Slot Size | Number | Diameter | Material | Casing | Liner |
|---|---|---|---|---|---|---|---|
| 130 | 145 | 1/16 | 160 | 12 | STEEL | ☐ | ☐ |
| | | | | | | ☐ | ☐ |
| | | | | | | ☐ | ☐ |

**10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:**
90 ft. below ground Artesian pressure ____ lb.
Depth flow encountered ____ ft. Describe access port or control devices:

SESE NE 7 52N 3W

**11. WELL TESTS:**
☐ Pump ☐ Bailer ☒ Air ☐ Flowing Artesian

| Yield gal./min. | Drawdown | Pumping Level | Time |
|---|---|---|---|
| 100+ | | | 4 HRS |
| | | | |
| | | | |

Water Temp. COLD Bottom hole temp. ____
Water Quality test or comments: LITTLE CLOUDY

**12. LITHOLOGIC LOG:** (Describe repairs or abandonment)

| Bore Dia. | From | To | Remarks: Lithology, Water Quality & Temperature | Water Y | Water N |
|---|---|---|---|---|---|
| 14 | 0 | 1 | TOPSOIL BROWN SOFT | | X |
| 14 | 1 | 10 | LARGE COBBLES W/CLAY TAN SOFT | | X |
| 14 | 10 | 14 | GRAVEL W/COBBLE BROWN SOFT | | X |
| 14 | 14 | 18 | LARGE COBBLES W/LITTLE GRAVELS TAN MED. | | X |
| 12 | 18 | 20 | BOULDER DARK MED. HARD | | X |
| 12 | 20 | 40 | LARGE GRAVELS W/COBBLE TAN SOFT | | X |
| 12 | 40 | 68 | GRAVEL CEMENT GRAYISH MED. | | X |
| 12 | 68 | 102 | GRAVEL W/SAND TAN MED. SOFT | X | |
| 12 | 102 | 128 | GRAVEL W/CLAY LENSES GRAYISH MED SOFT | X | |
| 12 | 128 | 145 | PEA GRAVEL BROWN MED. SOFT | X | |
| 12 | 145 | 147 | CEMENT GRAVEL TAN SOFT | X | |
| | | | 1x12" Welded on cap | | |

RECEIVED
DEC 19 1994
NORTHERN REGION
IDWR

Completed Depth 147 (Measurable)
Date: Started 11/26/94 Completed 11/29/94

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

Firm Name H2O WELL SERVICE, INC. Firm No. 449
Firm Official [signature] Date 12/14/94
and
Supervisor or Operator [signature] Date 12/14/94
(Sign once if Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

DIBE

RECEIVED
MAR 22 1967
Department of Reclamation

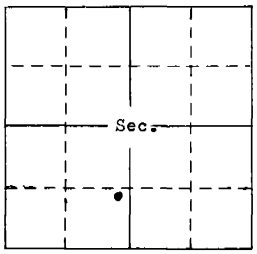
REPORT OF WELL DRILLER
State of Idaho

State law requires that this report shall be filed with the State Reclamation Engineer within 30 days after completion or abandonment of the well.

WELL OWNER:
Name IDAHO IRRIGATION INC.
Address RATHDRUM IDAHO 83858
RTE. 1, BOX 77 95-66-N-5
Owner's Permit No. 32621
NATURE OF WORK (check): Replacement well ☐
New well ☒ Deepened ☐ Abandoned ☐
Water is to be used for: IRRIGATION
METHOD OF CONSTRUCTION: Rotary ☐ Cable ☒
Dug ☐ Other _____ (explain)
CASING SCHEDULE: Threaded ___ Welded X
16 "Diam. from +2 ft. to 321 ft.
___ "Diam. from ___ ft. to ___ ft.
___ "Diam. from ___ ft. to ___ ft.
___ "Diam. from ___ ft. to ___ ft.
Thickness of casing: .375 Material:
Steel ☒ concrete ☐ wood ☐ other ☐
(explain)
PERFORATED? Yes ☐ No ☒ Type of perforator used: _____
Size of perforations: ___ " by ___ "
___ perforations from ___ ft. to ___ ft.
___ perforations from ___ ft. to ___ ft.
___ perforations from ___ ft. to ___ ft.
___ perforations from ___ ft. to ___ ft.
WAS SCREEN INSTALLED? Yes ☒ No ☐
Manufacturer's name JOHNSON
Type ARMCO IRON Model No. IRRIGATOR
Diam. 12" OD Slot size 100 Set from 320 ft. to 340 ft.
Diam. 12" OD Slot size 125 Set from 340 ft. to 351 ft.
CONSTRUCTION: Well gravel packed? Yes ☐ No. ☒ size of gravel _____ Gravel placed from ___ ft. to ___ ft. Surface seal provided? Yes ☒ No ☐ To what depth? 90 ft. Material used in seal: BENTONITE SLURRY
Did any strata contain unusable water? Yes ☐ No. ☒ Type of water: _____
Depth of strata _____ ft. Method of sealing strata off: _____

Surface casing used? Yes ☐ No. ☒
Cemented in place? Yes ☐ No ☒

Locate well in section




LOCATION OF WELL: County KOOTENAI
SE ¼ SW ¼ Sec. 3 T. 51 N/S R. 4 E/W

Size of drilled hole: 16" Total depth of well: 351 Standing water level below ground: 279 Temp. Fahr. ___ ° Test delivery: 1800 gpm or ___ cfs Pump? ☒ Bail ☐
Size of pump and motor used to make test: 250 Hp Deep Well Turbine
Length of time of test: 13 Hrs. ___ Min.
Drawdown: 13 ft. Artesian pressure: ft. above land surface ___ Give flow ___ cfs or ___ gpm. Shutoff pressure: _____
Controlled by: Valve ☐ Cap ☐ Plug ☐
No control ☐ Does well leak around casing? Yes ☐ No ☒

| DEPTH FROM FEET | DEPTH TO FEET | MATERIAL | WATER YES OR NO |
|---|---|---|---|
| 0 | 1 | Top soil | No |
| 1 | 10 | Gravel | No |
| 10 | 46 | Gravel + Boulders | No |
| 46 | 161 | Gravel 3" minus | No |
| 161 | 228 | Hardpan | No |
| 228 | 270 | Sand + pea Gravel | yes |
| 270 | 351 | Sand + pea Gravel | yes |

Work started: JAN 19 -66
Work finished: FEB 14 -66
Well Driller's Statement: This well was drilled under my supervision and this report is true to the best of my knowledge.
Name: HOLMAN DRILLING CORP
Address: 3410 E 9TH SPOKANE WN.
Signed by: Arnold E. Holman
License No. ~~182~~ 108 Date: MAY 31, 1966

Use other side for additional remarks

Well #1
USGS

95

Form 238-7
1/78

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

USE TYPEWR
BALLPOIN

EASA

# 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.**

POSTED

**1. WELL OWNER**

Name Spirit Bend Water Association

Address 2615 W. Sharp, Spokane, WA 99201

Owner's Permit No. 96-79-N-173

**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 |
|---|---|---|---|
| inches | 10 inches | + 1 feet | 291½ feet |
| inches | 8 inches | 0 feet | 673 feet |
| inches | inches | feet | feet |
| inches | inches | feet | feet |

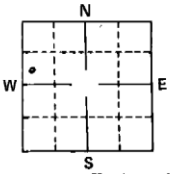
Was casing drive shoe used? ☒ Yes ☐ No
Was a packer or seal used? ☐ Yes ☐ No
Perforated? ☐ Yes ☒ No
How perforated? ☐ Factory ☐ Knife ☐ Torch
Size of perforation _____ inches by _____ inches

| Number | From | To |
|---|---|---|
| perforations | feet | feet |
| perforations | feet | feet |
| perforations | feet | feet |

Well screen installed? ☒ Yes ☐ No
Manufacturer's name Johnson
Type stainless steel Model No. _____
Diameter 6" Slot size .060 Set from 658 feet to 663 feet
Diameter 6 Slot size .050 Set from 663 ~~668~~ feet to 668 ~~673~~ 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 Kootenai

SW ¼ NW ¼ Sec. 21, T. 53 N/~~S~~, R. 4 ~~E~~/W.

**7. WATER LEVEL**

Static water level Unknown 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 |
|---|---|---|
| 50 | | |

**9. LITHOLOGIC LOG**

| Hole Diam. | Depth From | Depth To | Material | Water Yes | Water No |
|---|---|---|---|---|---|
| 10" | 0 | 24 | Boulders | | |
| | 24 | 118 | Sand with some rocks | | |
| | 118 | 291 | 1¼" minus gravel with layers of cobbles | | |
| 8" | 291 | 673 | 1¼" minus gravel with layers of cobbles | X | |

RECEIVED
SEP 14 1979
Department of Water Resources
Northern District Office

RECEIVED
APR 30 1979
Department of Water Resources
Northern District Office

**10.**

Work started 2/5/79 finished 3/16/79

**11. DRILLERS CERTIFICATION**

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

Firm Name Bartholomew Drilling Firm No. 52
Address Nine Mile Falls, WA 99026 Date 4/11/79
Signed by (Firm Official) Gary Bartholomew
and
(Operator) Lynn [illegible]

MICROFILMED

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

EGA#1

USE TYPEWRITER OR BALL POINT PEN

State of Idaho
Department of Water Administration

# WELL DRILLER'S REPORT

ENT'D

State law requires that this report be filed with the State Reclamation Engineer within 30 days after completion or abandonment of the well.

**1. WELL OWNER**

Name EAST GREENACRES IRRIGATION DIST

Address RT 1 Box 116 POST FALLS IDA.

Owner's Permit No. 95-7055 (Bur. Rec.)

**2. NATURE OF WORK** 95-71-N-71

☒ New well ☐ Deepened ☐ Replacement

☐ Abandoned (describe method of abandoning)

**3. PROPOSED USE**

☐ Domestic ☒ Irrigation ☐ Test

☐ Municipal ☐ Industrial ☐ Stock

**4. METHOD DRILLED**

☒ Cable ☐ Rotory ☐ Dug ☐ Other

**5. WELL CONSTRUCTION**

Diameter of hole 20 inches Total depth 230 feet

Casing schedule: ☒ Steel ☐ Concrete

| Thickness | Diameter | From | To |
|---|---|---|---|
| .375 inches | 20 inches | +2 feet | 201 feet |
| inches | inches | feet | feet |
| inches | inches | feet | feet |
| inches | inches | feet | feet |
| inches | inches | feet | feet |

Was a packer or seal used? ☒ Yes ☐ No

Perforated? ☐ Yes ☒ No

How perforated? ☐ Factory ☐ Knife ☐ Torch

Size of perforation ____ inches by ____ inches

| Number | From | To |
|---|---|---|
| perforations | feet | feet |
| perforations | feet | feet |
| perforations | feet | feet |

Well screen installed? ☒ Yes ☐ No

Manufacturer's name U.O.P JOHNSON

Type TELESCOPE Model No. IRRIGATOR

Diameter 18 Slot size 187 Set from 200 feet to 210 feet

Diameter 18 Slot size 150 Set from 210 feet to 215 feet
18 125 215 230

Gravel packed? ☐ Yes ☒ No Size of gravel ____

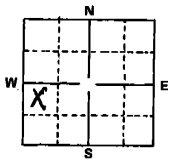
Placed from ____ feet to ____ feet

Surface seal? ☒ Yes ☐ No To what depth 20 feet

Material used in seal ☒ Cement grout ☐ Puddling clay

**6. LOCATION OF WELL**

Sketch map location must agree with written location.




County KOOTENAI

NW ¼ SW ¼ Sec. 28, T. 51 N/S, R. 5 E/W

**7. WATER LEVEL**

Static water level 160 feet below land surface

Flowing? ☐ Yes ☒ No G.P.M. flow ____

Temperature 48 ° F. Quality GOOD

Artesian closed-in pressure ____ p.s.i.

Controlled by ☐ Valve ☐ Cap ☐ Plug

**8. WELL TEST DATA** NO TEST MADE

☐ Pump ☐ Bailer ☐ Other

| Discharge G.P.M. | Draw Down | Hours Pumped |
|---|---|---|
| | | |

**9. LITHOLOGIC LOG**

| Hole Diam. | Depth From | Depth To | Material | Water Yes | Water No |
|---|---|---|---|---|---|
| 20" | 0 | 20 | GRAVEL 3" MINUS | | X |
| 20" | 20 | 28 | BOULDER | | X |
| 20" | 28 | 38 | GRAVEL + BOULDERS | | X |
| 20" | 38 | 114 | GRAVEL 4" MINUS | | X |
| 20" | 114 | 165 | GRAVEL 2" MINUS | | X |
| 20" | 165 | 210 | GRAVEL 2" MINUS | X | |
| 20" | 210 | 230 | GRAVEL + SAND 1" MINUS | X | |

007124

**10.**

Work started MAY 24 1971 finished JUNE 28 1971

**11. DRILLER'S CERTIFICATION**

This well was drilled under my supervision and this report is true to the best of my knowledge.

HOLMAN DRILLING CORP 108
Driller's or Firm's Name Number

E 3410 9TH AVE SPOKANE WA.
Address

Arnold E. Holman JULY 8 1971
Signed By Date

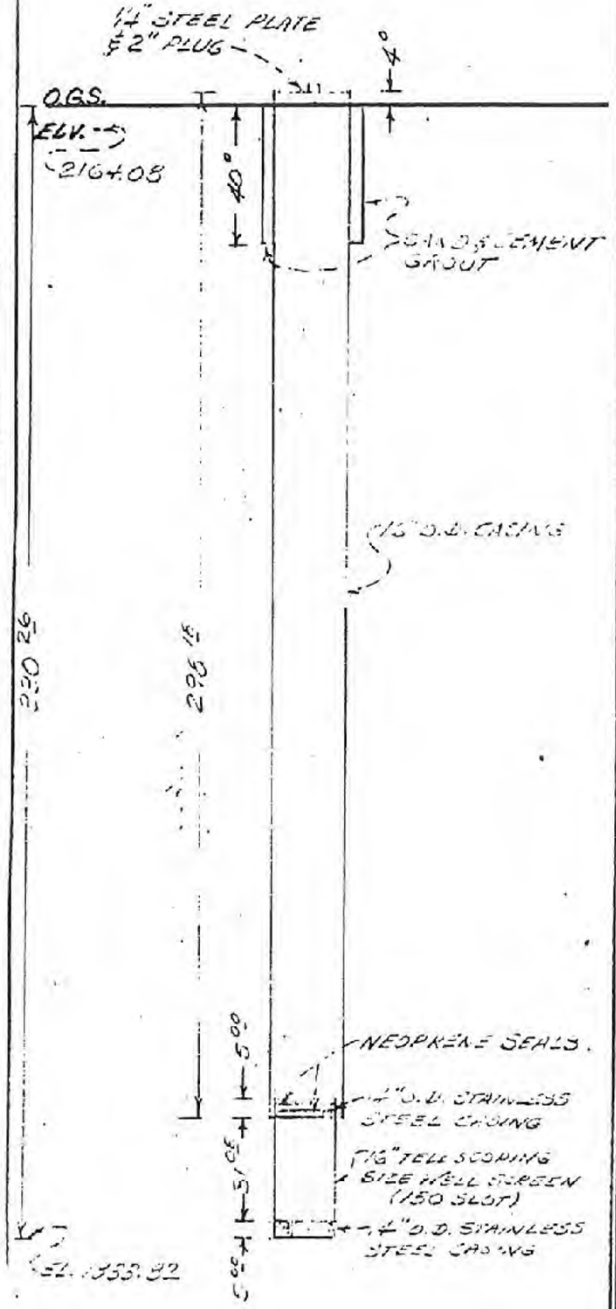
USE ADDITIONAL SHEETS IF NECESSARY FORWARD THE WHITE, BLUE, AND PINK COPIES TO THE DEPARTMENT

EGA#2

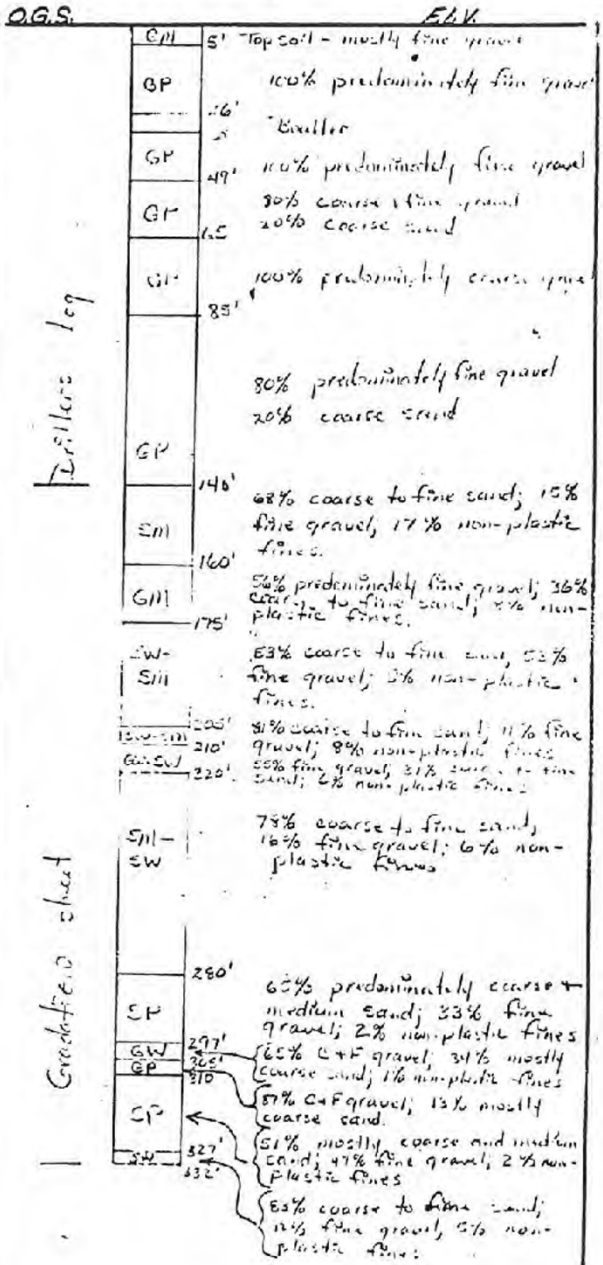
| DATE. | SPEC NO. | PROJECT. | SHEET ___ OF ___ |
|---|---|---|---|
| | 100C-1242 | RATHDRUM PRAIRIE | |
| WELL SITE NO. | WELL NO. | FEATURE | |
| 2 | 2E | EAST GREENACRES UNIT | |

CONTRACTOR
HOLMAN DRILLING CORP.

## ACTUAL WELL DATA




## MATERIALS LOG



53N 2W-5ad1 (formerly 53/2W-5H1; Farragut Naval Training Center well 3). SE¼NE¼ sec. 5; 2,150 feet south and 680 feet west of NE cor. sec. 5. Idaho Department of Fish and Game (formerly owned by U. S. Navy). Domestic and fire-protection well, drilled by A. A. Durand and Son in 1942; depth, about 361.6 feet; about 361 feet of 20-inch and 16-inch steel casing, perforated from 265 to 355 feet; open end; 125-HP electric motor and turbine pump, pump capacity, about 750 gpm. Drawdown, about 1 to 2 feet after pumping for several hours. Situated on outwash or till plain. Log, from drillers' original record, obtained by Geological Survey, October 18, 1948.

| Description of material | Thickness (feet) | Depth (feet) |
|---|---|---|
| Gravel, coarse, heavy, with granite boulders | 43 | 43 |
| Gravel, coarse to fine, with interbedded yellow clay | 19 | 62 |
| Gravel, coarse, heavy | 43 | 105 |
| Sand and gravel, fine | 33 | 138 |
| Boulders, granite | 4 | 142 |
| Sand and gravel, fine; some clay | 15 | 157 |
| Gravel and fine sand, cemented | 25 | 182 |
| Gravel, coarse, heavy | 9 | 191 |
| Gravel, pure, coarse, heavy | 14 | 205 |
| Sand, hardpan; also gravel, coarse | 8 | 213 |
| Gravel and fine sand | 10 | 223 |
| Sand and gravel, cemented | 6 | 229 |
| Gravel and fine sand | 14 | 243 |
| Gravel and fine sand, cemented | 11 | 254 |
| Gravel, coarse, and fine sand | 49 | 303 |
| Gravel, coarse to fine | 8 | 311 |
| Gravel and sand, coarse | 50.6 | 361.6 |

20-inch galvanized casing from surface to 6 feet: 16-inch heavy duty oil-well casing from surface to 335 feet; 6-foot 7-inch steel drive shoe at bottom. Casing perforated from 265 to 355. Well developed by pumping and surging for 32 hours. Test-pump yield was 800 gpm.

Principal aquifer, gravel (till or moraine). Water levels influenced strongly by stage of nearby Lake Pend Oreille. Measuring point: top of inner 16-inch casing; altitude, 2,290.4 feet; 0.4 foot above land-surface datum. Reference mark, chiselled cross in top of concrete pump base at northwest corner; altitude. 2,290.8 feet above mean sea-level and 0.8 foot above land-surface datum. Depth to water and altitude of water surface: Apr. 6, 1950, 242.9 (2,047.1).

FSP#9

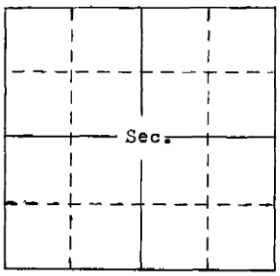
Received 6-13-69 Dept of Reclamation

REPORT OF WELL DRILLER
State of Idaho

State law requires that this report shall be filed with the State Reclamation Engineer within 30 days after completion or abandonment of the well.

WELL OWNER:
Name State of Idaho
Address Farragut State Park No. 9
96-69-N-9
Owner's Permit No. [illegible]
NATURE OF WORK (check): Replacement well [ ]
New well [*] Deepened [ ] Abandoned [ ]
Water is to be used for: Domestic
METHOD OF CONSTRUCTION: Rotary [ ] Cable [*]
Dug [ ] Other
(explain)
CASING SCHEDULE: Threaded [ ] Welded [*]
20 "Diam. from 1 ft. to 50 ft.
16 "Diam. from 1 ft. to 356 ft.
"Diam. from ft. to ft.
"Diam. from ft. to ft.
Thickness of casing: 3/8 Material:
Steel [*] concrete [ ] wood [ ] other [ ]
(explain)
PERFORATED? Yes [*] No [ ] Type of perforator used: Mills
Size of perforations: 3/8 " by 3 "
400 perforations from 350 ft. to 210 ft.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.
WAS SCREEN INSTALLED? Yes [ ] No [*]
Manufacturer's name
Type Model No.
Diam. Slot size Set from ft. to ft.
Diam. Slot size Set from ft. to ft.
CONSTRUCTION: Well gravel packed? Yes [ ]
No. [*] size of gravel Gravel placed from ft. to ft. Surface seal provided? Yes [*] No [ ] To what depth?
50 ft. Material used in seal: cement
Did any strata contain unusable water? Yes [ ]
No. [*] Type of water:
Depth of strata ft. Method of sealing strata off:
Surface casing used? Yes [*] No. [ ]
Cemented in place? Yes [*] No [ ]

Locate well in section




LOCATION OF WELL: County Kootenai
SE ¼ SW ¼ Sec. 4 T. 53 N/S R. 2 E/W

Size of drilled hole: 16" Total depth of well: 356 Standing water level below ground: 246 Temp. Fahr. ° Test delivery: 1250 gpm or cfs Pump? [ ] Bail [ ]
Size of pump and motor used to make test: 8"
Length of time of test: 16 Hrs. Min.
Drawdown: 1 ft. Artesian pressure: ft. above land surface Give flow cfs or gpm. Shutoff pressure:
Controlled by: Valve [ ] Cap [ ] Plug [ ]
No control [ ] Does well leak around casing?
Yes [ ] No [X]

| DEPTH FROM FEET | DEPTH TO FEET | MATERIAL | WATER YES OR NO |
|---|---|---|---|
| 0 | 3 | cement foundation | |
| 3 | 15 | dry gravel | |
| 15 | 21 | dry gravel small boulders | |
| 21 | 30 | gravel & boulders | |
| 30 | 48 | boulders | |
| 48 | 50 | hard dry gravel | |
| 50 | 60 | gravel & boulders | |
| 60 | 63 | boulders | |
| 63 | 90 | broken gravel | |
| 90 | 110 | sand & egg size gravel | |
| 110 | 150 | gravel with some sand & small boulders | |
| 150 | 164 | gravel, sand & boulders | |
| 164 | 170 | cemented gravel | |
| 170 | 228 | gravel & sand | |
| 228 | 248 | gravel dry | |
| 248 | 250 | water bearing gravel | |
| 250 | 270 | gravel & sand | |
| 270 | 290 | gravel | |
| 290 | 300 | large angular gravel | |
| 300 | 310 | large boulders | |
| 310 | 315 | boulders | |
| 315 | 325 | large boulders | |
| 325 | 350 | gravel | |
| 350 | 357 | large gravel | |

Work started: Feb. 12, 1969
Work finished: March 24, 1969
Well Driller's Statement: This well was drilled under my supervision and this report is true to the best of my knowledge.
Name:
Address:
Signed by: Russel Cowe
License No. 65 Date: June 12, 1969

Use other side for additional remarks

USGS

Manufactured by
*Alexander Clark Business Forms*
Boise, Idaho - (208) 322-0611

HAY#2

Form 238-7
6/07

# IDAHO DEPARTMENT OF WATER RESOURCES
## WELL DRILLER'S REPORT

**1. WELL TAG NO. D** 0054618
Drilling Permit No. 851624
Water right or injection well # 95-9244

**2. OWNER:** NORTH KOOTENAI WATER DIST.
Name
Address PO BOX 2290
City HAYDEN State ID Zip 83835

**3. WELL LOCATION:**
Twp. 51 North ☒ or South ☐ Rge. 04 East ☐ or West ☒
Sec. 23 ____ 1/4 (10 acres) NE 1/4 (40 acres) NE 1/4 (160 acres)
Gov't Lot ____ County KOOTENAI
Lat. ____ ° ____ (Deg. and Decimal minutes)
Long. ____ ° ____ (Deg. and Decimal minutes)
Address of Well Site HONEYSUCKLE AVE
(Give at least name of road + Distance to Road or Landmark) City HAYDEN
Lot. ____ Blk. ____ Sub. Name

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

**5. TYPE OF WORK:**
☒ New well ☐ Replacement well ☐ Modify existing well
☐ Abandonment ☐ Other

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

**7. SEALING PROCEDURES:**

| Seal material | From (ft) | To (ft) | Quantity (lbs or ft³) | Placement method/procedure |
|---|---|---|---|---|
| BENT. GROUT | 0 | 60 | 130 CU/FT | TREMIE |
| | | | | |

**8. CASING/LINER:**

| Diameter (nominal) | From (ft) | To (ft) | Gauge/ Schedule | Material | Casing | Liner | Threaded | Welded |
|---|---|---|---|---|---|---|---|---|
| 20 | +2 | 350 | .375 | STEEL | ☒ | ☐ | ☐ | ☒ |
| | | | | | ☐ | ☐ | ☐ | ☐ |
| | | | | | ☐ | ☐ | ☐ | ☐ |
| | | | | | ☐ | ☐ | ☐ | ☐ |

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s)

**9. PERFORATIONS/SCREENS:**
Perforations ☐ Y ☒ N Method
Manufactured screen ☒ Y ☐ N Type WIRE WRAP
Method of installation TELESCOPE - PULL BACK CASING

| From (ft) | To (ft) | Slot size | Number/ft | Diameter (nominal) | Material | Gauge or Schedule |
|---|---|---|---|---|---|---|
| 350 | 360 | 100 | CONT. | 18 | STAINLESS | 304 |
| 360 | 375 | 140 | CONT. | 18 | " | " |
| | | | | | | |

Length of Headpipe 3.5' Length of Tailpipe 4.5'
Packer ☒ Y ☐ N Type FIGURE K

**10. FILTER PACK:**

| Filter Material | From (ft) | To (ft) | Quantity (lbs or ft³) | Placement method |
|---|---|---|---|---|
| | | | | |
| | | | | |

**11. FLOWING ARTESIAN:**
Flowing Artesian? ☐ Y ☒ N Artesian Pressure (PSIG)
Describe control device

**12. STATIC WATER LEVEL and WELL TESTS:**
Depth first water encountered (ft) 254 Static water level (ft) 271
Water temp. (°F) ____ Bottom hole temp. (°F) ____
Describe access port

Well test: NONE

| Drawdown (feet) | Discharge or yield (gpm) | Test duration (minutes) |
|---|---|---|
| | | |
| | | |

Test method: Pump ☐ Bailer ☐ Air ☐ Flowing artesian ☐

Water quality test or comments:

**13. LITHOLOGIC LOG and/or repairs or abandonment:**

| Bore Dia. (in) | From (ft) | To (ft) | Remarks, lithology or description of repairs or abandonment, water temp. | Water Y | Water N |
|---|---|---|---|---|---|
| 24 | 0 | 3 | BRN SUB SOIL | | ✓ |
| 24 | 3 | 24 | SANDY GRAVEL COBBLES | | ✓ |
| 24 | 24 | 45 | SILTY SANDY GRAVEL COBBLES | | ✓ |
| 24 | 45 | 60 | SANDY GRAVEL COBBLE BOULDER | | ✓ |
| 20 | 60 | 96 | SANDY GRAVEL COBBLES | | ✓ |
| 20 | 96 | 125 | " " " BOULDERS | | ✓ |
| | 125 | 136 | LOOSE SAND GRAVEL COBBLES | | ✓ |
| | 136 | 139 | TIGHT " " BOULDER | | ✓ |
| | 139 | 145 | LOOSE " " COBBLES | | ✓ |
| | 145 | 151 | BRN SAND GRAVEL COBBLES | | ✓ |
| | 151 | 156 | BOULDER | | ✓ |
| | 156 | 167 | SANDY GRAVEL, COBBLE | | ✓ |
| | 167 | 170 | SAND GRAVEL 8" COBBLES | | ✓ |
| | 170 | 185 | COARSE SAND PEA GRAVELS | | ✓ |
| | 185 | 207 | SAND GRAVEL COBBLES 12" | | ✓ |
| | 207 | 226 | " " " BOULDERS | | ✓ |
| | 226 | 232 | COBBLES BOULDERS | | ✓ |
| | 232 | 254 | SAND GRAVEL | | ✓ |
| | 254 | 267 | COARSE SAND PEA GRAVELS | X | ✓ |
| | 267 | 278 | FINER SAND SILT/CLAY LENSES | X | |
| | 278 | 298 | COARSE SAND PEA GRAVELS | ✓ | |
| | 298 | 315 | SAND GRAVEL | ✓ | |
| | 315 | 335 | COARSE SAND PEA GRAVELS | ✓ | |
| | 335 | 348 | MED TO COARSE SAND | ✓ | |
| | 348 | 379 | COARSE SANDY GRAVEL | ✓ | |
| | | 379 | | | |

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IDWR / NORTH

Completed Depth (Measurable): 379.5'
Date Started: 7-7-08 Date Completed: 9-10-08

**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 BOART LONGYEAR Co. No. 610
*Principal Driller ROBERT STUDELI Date 1-18-09
*Driller WADE IVERSEN Date 1-18-09
*Operator II ____ Date
Operator I ____ Date

* Signature of Principal Driller and rig operator are required.

RECEIVED
DEC 04 2009
WATER RESOURCES
WESTERN REGION

HLWA#1

ENT'D

REPORT OF WELL [illegible]
State of [illegible]

RECEIVED
AUG 4 1967
Department of Reclamation

State law requires that this report shall be filed with the Department of Reclamation Engineer within 30 days after completion or abandonment of [illegible]

**WELL OWNER:**
**Name** HAUSER LAKE WATER ASSOC. INC.
**Address** HAUSER LAKE [redacted] IDAHO
95-67-N-27
**Owner's Permit No.** G. 33090
**NATURE OF WORK** (check): Replacement well [ ]
**New well** [X] Deepened [ ] Abandoned [ ]
**Water is to be used for:** MUNICIPAL
**METHOD OF CONSTRUCTION:** Rotary [ ] Cable [X]
Dug [ ] Other [ ]
(explain)
**CASING SCHEDULE:** Threaded [ ] Welded [ ]
12 "Diam. from +2 ft. to 191 ft.
"Diam. from ft. to ft.
"Diam. from ft. to ft.
"Diam. from ft. to ft.
**Thickness of casing:** .1330 Material:
**Steel** [X] concrete [ ] wood [ ] other [ ]
(explain)
**PERFORATED?** Yes [ ] No [X] Type of perforator used:
Size of perforations " by "
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.
**WAS SCREEN INSTALLED?** Yes [X] No [ ]
**Manufacturer's name** JOHNSON
**Type** STAINLESS STEEL Model No. 12" STANDARD
**Diam.** 12 **Slot size** 90 **Set from** 188 ft. to 198 ft.
**Diam.** 12 **Slot size** 50 **Set from** 198 ft. to 208 ft.
**CONSTRUCTION:** Well gravel packed? Yes [ ]
**No.** [X] **size of gravel** Gravel
**placed from** ft. to ft. **Surface seal**
**provided?** Yes [X] No [ ] To what depth?
35 ft. **Material used in seal:** SURFACE - 10FT CEMENT 10FT - 35FT BENTONITE SLURRY
**Did any strata contain unusable water?** Yes [ ]
**No.** [X] Type of water:
**Depth of strata** ft. **Method of sealing strata off:**

**Surface casing used?** Yes [X] No. [ ]
**Cemented in place?** Yes [ ] No [X]

Locate well in section [illegible]

Size of drill bit: 12" Total depth of well: 208 Standing water level below ground: 140 Temp. Pump: 51 ° Test delivery: 1000 gpm
Type of pump: [X] Bail [ ]
Size of pump and motor used to make test:
10 x 8" TEST PUMP 450 H.P. DIESEL ENGINE
Length of time of test: 8 Hrs. Min.
Drawdown 7 ft. Artesian pressure: ft. above land surface Give flow cfs
or gpm. Shut-off pressure:
Is controlled by: Valve [ ] Cap [X] Plug [ ]
Is control [illegible] Does well leak around casing?
Yes [ ] No [X]

| DEPTH FROM FEET | DEPTH TO FEET | MATERIAL | WATER YES OR NO |
|---|---|---|---|
| 0 | 41 | CEMENTED GRAVEL & BOULDERS | NO |
| 41 | 65 | LOOSE GRAVEL 1" MINUS | NO |
| 65 | 78 | CEMENTED GRAVEL | NO |
| 78 | 96 | GRAVEL 4" MINUS | NO |
| 96 | 115 | GRAVEL 2" MINUS | NO |
| 115 | 136 | GRAVEL 3/8" MINUS | NO |
| 136 | 175 | GRAVEL 3/4" MINUS | YES |
| 175 | 180 | CEMENTED GRAVEL | NO |
| 180 | 185 | GRAVEL 1/2" MINUS | YES |
| 185 | 189 | GRAVEL & YELLOW CLAY | NO |
| 189 | 195 | GRAVEL 3/8" MINUS | YES |
| 195 | 200 | GRAVEL 1/2" MINUS | YES |
| 200 | 213 | SAND COARSE | YES |

[redacted]

006901

JUNE 12 1967
JUNE 30 1967
[illegible] well was [illegible] this report [illegible] knowledge.

X

HOLMAN DRILLING CORP.
EAST 3410 NINTH SPOKANE WN.
Arnold E. Holman
+82
108
Date: JULY 24 1967

KOOTENAI
N¼ SE 19 51 0 5 0

USGS

Form 238-7
6/89

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

USE TYPEWRIT
BALLPOINT I

HVWS

# 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** Gary Black Eagle 95-92-N-4

Name Milo Howard

Address Hayden Idaho

Owner's Permit No. 95-91-N-192

**2. NATURE OF WORK**

☒ New well ☐ Deepened ☐ Replacement
☐ Well diameter increase
☐ 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 | 8 inches + | 3 feet | 297 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 ☐ Gun
Size of perforation 1 inches by 1/8 inches

| Number | From | To |
|---|---|---|
| 400 perforations | 281 feet | 296 feet |
| perforations | feet | 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 20 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 _____

**6. LOCATION OF WELL**

Sketch map location must agree with written location.

N
W E
S

Subdivision Name _____
Lot No. _____ Block No. _____

MICROFILMED
AUG 11 1992

County Kootenai
SE ¼ SE ¼ Sec. 17, T. 51 N ☐ S ☐ R. 4 E ☐ W ☒

**7. WATER LEVEL**

Static water level 260 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 _____
*Describe artesian or temperature zones below.*

**8. WELL TEST DATA**

☐ Pump ☐ Bailer ☒ Air ☐ Other _____

| Discharge G.P.M. | Pumping Level | Hours Pumped |
|---|---|---|
| 50+ | 297 | 1 |
| perforated & developed & accumulated 500 gpm | | |

080018

**9. LITHOLOGIC LOG**

| Bore Diam. | Depth From | Depth To | Material | Water Yes | Water No |
|---|---|---|---|---|---|
| 10 | 0 | 20 | Sand & gravel | | X |
| 8 | 20 | 260 | Sand gravel & cobbles | | X |
| | 260 | 297 | Coarse sand & gravel | X | |

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JAN 22 1992
NORTHERN REGION
IDWR

**10.** Work started 1-7-92 finished 1-12-92

**11. DRILLERS CERTIFICATION**

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

Firm Name H2O Inc Firm No. 448
Address Hayden Idaho Date 1-13-92
Signed by (Firm Official) [signature]
and
(Operator) [signature]

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

HWY54

RECEIVED

Form 238-7
11/97

OCT 29 1998

# IDAHO DEPARTMENT OF WATER RESOURCES
# WELL DRILLER'S REPORT

78145

Office Use Only
Inspected by_____
Twp____ Rge____ Sec____
____1/4 ____1/4 ____1/4
Lat: : : Long: : :

IDWR/North

**1. WELL TAG NO.** D0005520

DRILLING PERMIT NO 96-98-N-240

Other IDWR No.

**2. OWNER:**

POSTED

Name Burnell & Ina Willis

Address E 10305 Highway 54

City Athol State ID Zip 83801

**3. LOCATION OF WELL by legal description:**

Twp 53N North ☒ or South ☐

Rge 03W East ☐ or West ☒

Sec 12 1/4 SE 1/4 SW 1/4 (10 Ac, 40 Ac, 160 Ac)

Gov't Lot ____ County Kootenai

Lat Long

Address of Well Site: (see next line)

95 TO ATHOL, GO R 2.5 10305 ON MAIL BOX City

Lot ____ Blk ____ Sub. Name (see next line)

**4. USE:**

☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other

**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/FILTER PACK | | | Amount | Method |
|---|---|---|---|---|
| Material | From | To | Sacks/Lbs | |
| Bentonite | 0 | 18 | 14 sacks | pour in |
| | | | | |
| | | | | |

Drive Shoe Used? ☒ Y ☐ N Shoe Depth(s) 458'

Drive Shoe Seal Tested? ☐ Y ☒ N How?

**8. CASING/LINER**

| Diam | From | To | Gauge | Material | Casng | Liner | Weld | Thrded |
|---|---|---|---|---|---|---|---|---|
| 6" | 2 | 458 | 0.025 | Steel | ☒ | ☐ | ☒ | ☐ |
| | | | | | ☐ | ☐ | ☐ | ☐ |
| | | | | | ☐ | ☐ | ☐ | ☐ |

Length Headpipe ____ Length Tailpipe ____

**9. PERFORATIONS/SCREENS**

☒ Perforations? Method air perforator

☐ Screens? Screen Type

| From | To | Slot | Nmbr | Diam | Material | Casng | Liner |
|---|---|---|---|---|---|---|---|
| 435 | 455 | 1 inc | 400 | | Steel | ☒ | ☐ |
| | | | | | | ☐ | ☐ |
| | | | | | | ☐ | ☐ |

**10. STATIC WATER LEVEL or ARTESIAN PRESSURE**

406 ft. below ground. Artesian pressure ____ lb.

Depth flow encountered 406 ft. Describe access port or control devices: steel cap welded

**11. WELL TESTS**

☐ Pump ☐ Bailer ☒ Air ☐ Flowing Artesian

| Yield gal./min. | Drawdown | Pump Level | Time |
|---|---|---|---|
| 20+ | 100% | 455 | 2 hrs. |
| | | | |
| | | | |

Water Temp. cold Bottom hole temp. cold

Water Quality test or comments: (below) Depth first Water Encountered 405

clear, cold, no smell

**12. LITHOLOGIC LOG (Describe repairs or abandonment)**

| Bore Diam | From | To | Remarks: Lithology, Water Quality and Temperatyre | Water Y | Water N |
|---|---|---|---|---|---|
| 8 | 0 | 1 | Topsoil | ☐ | ☒ |
| 8 | 1 | 18 | Sand & gravel & cobbles | ☐ | ☒ |
| 6 | 18 | 180 | Sand & gravel - 3/4 minus | ☐ | ☒ |
| 6 | 180 | 190 | Sand & gravel - 1/2 minus | ☐ | ☒ |
| 6 | 190 | 285 | Sand & gravel - 1/2 minus | ☐ | ☒ |
| 6 | 285 | 458 | Sand & gravel - 3/4 minus | ☒ | ☐ |

Completed Depth 458 (Measurable)

Date: Started 10/20/98 Completed 10/27/98

**13. DRILLERS CERTIFICATION**

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

Firm Name United Drilling Inc. Firm No 414

Firm Official and Supervisor or Operator Jason C. Beckham Date 10/27/98

Date 10/27/98

FORWARD WHITE COPY TO WATER RESOURCES

103

53N 3W 12

LAAW

USE TYPEWRITER OR BALL POINT PEN

State of Idaho
Department of Water Administration

# WELL DRILLER'S REPORT

State law requires that this report be filed with the State Reclamation Engineer within 30 days after completion or abandonment of the well.

**1. WELL OWNER**

Name: Ratliff Industries

Address: Hayden Lake, Idaho.

Owner's Permit No. 95-72-N-78

**2. NATURE OF WORK**

☒ New well ☐ Deepened ☐ Replacement

☐ Abandoned (describe method of abandoning)

**3. PROPOSED USE**

☐ Domestic ☐ Irrigation ☐ Test

☐ Municipal ☒ Industrial ☐ Stock

**4. METHOD DRILLED**

☒ Cable ☐ Rotory ☐ Dug ☐ Other

**5. WELL CONSTRUCTION**

Diameter of hole 8 inches Total depth 343 feet

Casing schedule: ☒ Steel ☐ Concrete

| Thickness | Diameter | From | To |
|---|---|---|---|
| 280 inches | 8 inches | +2 feet | 318 feet |
| inches | inches | feet | feet |
| inches | inches | feet | feet |
| inches | inches | feet | feet |
| inches | inches | feet | feet |

Was a packer or seal used? ☒ Yes ☐ No

Perforated? ☐ Yes ☒ No

How perforated? ☐ Factory ☐ Knife ☐ Torch

Size of perforation ____ inches by ____ inches

| Number | From | To |
|---|---|---|
| perforations | feet | feet |
| perforations | feet | feet |
| perforations | feet | feet |

Well screen installed? ☒ Yes ☐ No

Manufacturer's name JOHNSON

Type STAINLESS Steel Model No. 304

Diameter ___ Slot size 60 Set from 323 feet to 333 feet

Diameter ___ Slot size ___ Set from ___ feet to ___ feet

Gravel packed? ☐ Yes ☒ No Size of gravel ____

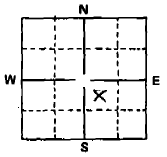
Placed from ____ feet to ____ feet

Surface seal? ☒ Yes ☐ No To what depth 298 feet

Material used in seal ☐ Cement grout ☒ Puddling clay

**6. LOCATION OF WELL**

Sketch map location must agree with written location.




County Kootenai

NW ¼ SE ¼ Sec. 15, T. 51 N/S, R. 4 E/W

**7. WATER LEVEL**

Static water level 298 feet below land surface

Flowing? ☐ Yes ☒ No G.P.M. flow ____

Temperature ____ ° F. Quality ____

Artesian closed-in pressure ____ p.s.i.

Controlled by ☐ Valve ☐ Cap ☐ Plug

**8. WELL TEST DATA**

☐ Pump ☒ Bailer ☐ Other

| Discharge G.P.M. | Draw Down | Hours Pumped |
|---|---|---|
| 40 | 0 | 3 hrs. |

**9. LITHOLOGIC LOG**

| Hole Diam. | Depth From | Depth To | Material | Water Yes | Water No |
|---|---|---|---|---|---|
| 16 | 0 | 10 | SANDY CLAY + GRAVEL - 4" | | ✓ |
| " | 10 | 20 | SAND, CLAY + GRAVEL - 2" | | ✓ |
| " | 20 | 30 | SAND + GRAVEL - 1" | | ✓ |
| " | 30 | 40 | SAND + GRAVEL - 1½" | | ✓ |
| 8 | 40 | 50 | SAND + GRAVEL - 1½" | | ✓ |
| | 50 | 60 | SAND + GRAVEL - 1½" | | ✓ |
| | 60 | 70 | SAND + GRAVEL - 1½" | | ✓ |
| | 70 | 80 | SAND + GRAVEL - 1½" | | ✓ |
| | 80 | 90 | SAND + GRAVEL - 1½" | | ✓ |
| | 90 | 100 | SAND + GRAVEL - 1" | | ✓ |
| | 100 | 110 | SAND + GRAVEL - 1" | | ✓ |
| | 110 | 120 | SAND + GRAVEL - 1" | | ✓ |
| | 120 | 130 | SAND + GRAVEL - ¾" | | ✓ |
| | 130 | 140 | SAND + GRAVEL - 1½" | | ✓ |
| | 140 | 150 | SAND + GRAVEL - 1½" | | ✓ |
| | 150 | 160 | SAND + GRAVEL - 1½" | | ✓ |
| | 160 | 165 | SAND + GRAVEL - 1½" | | ✓ |
| | 165 | 167 | NEST of BOULDERS | | ✓ |
| | 167 | 176 | SAND + GRAVEL - 1" | | ✓ |
| | 176 | 186 | SAND + GRAVEL - 1" | | ✓ |
| | 186 | 196 | SAND + GRAVEL - ¾" | | ✓ |
| | 196 | 206 | SAND + GRAVEL - 1" | | ✓ |
| | 206 | 217 | SAND + GRAVEL - 1" | | ✓ |
| | 217 | 237 | SAND + GRAVEL - 1" | | ✓ |
| | 237 | 247 | SAND + GRAVEL - 2" | | ✓ |
| | 247 | 277 | SAND + GRAVEL - 2" | | ✓ |
| | 277 | 298 | SAND + GRAVEL - ¾" | | ✓ |
| | 298 | 320 | COARSE SAND | ✓ | |
| | 320 | 330 | COARSE SAND & GRAVEL | ✓ | |
| | 330 | 337 | COARSE SAND + GRAVEL - 1½" | ✓ | |
| | 337 | 343 | COARSE SAND + GRAVEL | ✓ | |

**10.** Work started 6/12/72 finished 8/14/72

**11. DRILLER'S CERTIFICATION**

This well was drilled under my supervision and this report is true to the best of my knowledge.

E.A. Hofman Drilling Co — Driller's or Firm's Name — Number 105

601 S Pines Rd Spokane Wash — Address

Signed By [signature] — Date 8/25/72

USE ADDITIONAL SHEETS IF NECESSARY

FORWARD THE WHITE, BLUE, AND PINK COPIES TO THE DEPARTMENT

MDLA

Form 238-7
3/95
Starships Consulting and Management Services

RECEIVED
SEP 30 1996
NORTHERN REGION
IDWR

POSTED

IDAHO DEPARTMENT OF WATER RESOURCES

# WELL DRILLER'S REPORT 097135

Use Typewriter or Ballpoint Pen

Office Use Only
Inspected by_____
Twp_____ Rge_____ Sec_____
_____1/4_____1/4_____1/4
Lat: : : Long: : :

**1. DRILLING PERMIT NO.** 95-96-N-109
Other IDWR No. 95-08945 STATE COPY

**2. OWNER** **Well Number:** 448
Name WEINGART, DON
Address 715 DUNDEE
City POST FALLS State ID Zip 83854

**3. LOCATION OF WELL by legal description**
sketch map location must agree with written location

N / W / E / S

Twp. 51 ☒ North or ☐ South
Rge. 05 ☐ East or ☒ West
Sec. 23 ____ 1/4 ____ 1/4 SE 1/4
Gov't Lot ____ County KOOTENAI
Lat: : : Long: : :
Address of Well Site GREENSFERRY/PRA
City POST FALLS
(Give at least name of road + Distance to Road or Landmark)
Lt. ____ Blk. ____ Sub. Name MEADOWLAN

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

**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/FILTER PACK Material | From | To | AMOUNT Sacks or Pounds | METHOD |
|---|---|---|---|---|
| BENTONITE | 0 | 20 | 7 SACK | CRUMBLES |
| | | | | |
| | | | | |

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 303
Was drive shoe seal tested? ☐ Y ☐ N How?

**8. CASING/LINER:**

| Diameter | From | To | Gauge | Material | Casing | Liner | Welded | Threaded |
|---|---|---|---|---|---|---|---|---|
| 8 | +2 | 303 | .250 | STEEL | ☒ | ☐ | ☒ | ☐ |
| | | | | | | | | |
| | | | | | | | | |

Length of Headpipe ____ Length of Tailpipe ____

**9. PERFORATIONS/SCREENS**
☒ Perforations Method AIR PERFORATOR
☐ Screens Screen Type

| From | To | Slot Size | Number | Diameter | Material | Casing | Liner |
|---|---|---|---|---|---|---|---|
| 280 | 300 | 1/16X2 | 260 | 8 | STEEL | ☒ | ☐ |
| | | | | | | | |
| | | | | | | | |

**10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:**
225 ft. below ground Artesian pressure ____ lb.
Depth flow encountered ____ ft. Describe access port or control devices:

SE 23 51N 5W

**11. WELL TESTS:**
☐ Pump ☐ Bailer ☒ Air ☐ Flowing Artesian

| Yield gal./min. | Drawdown | Pumping Level | Time |
|---|---|---|---|
| 100+ | | | 2.5HR |
| | | | |
| | | | |

Water Temp. ____ Bottom Hole Temp ____
Water Quality test or comments: ____
____ Depth first Water encountered 260

**12. LITHOLOGIC LOG:(Describe repairs or abandonment)**

| Bore Diam | From | To | Remarks: Lithology, Water Quality, Temperature | Water Y | Water N |
|---|---|---|---|---|---|
| 12 | 0 | 3 | Topsoil Brown Soft | ☐ | ☒ |
| 12 | 3 | 60 | Cobbles Large Gravels | ☐ | ☒ |
| 10 | 60 | 110 | Gravels Sands L/Clays | ☐ | ☒ |
| 10 | 110 | 180 | Gravels Fine Sands | ☐ | ☒ |
| 10 | 180 | 220 | Gravels 1/4 to 1/2 minis | ☐ | ☐ |
| 10 | 220 | 280 | Gravels 1/2 to 3/4 minis | ☒ | ☐ |
| 10 | 280 | 290 | Gravels 1/2" minis | ☒ | ☐ |
| 10 | 290 | 295 | Gravels 1/4" minis | ☒ | ☐ |
| 10 | 295 | 303 | Gravels 1" to 1 1/4" minis | ☒ | ☐ |
| | 0 | 0 | 1x8" bolt on cap | ☐ | ☐ |

Completed Depth 299' (Measurable)
Date: Started 08/26/96 Completed 08/29/96

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

Firm Name H20 WellService, Inc. Firm No. 448
Firm Official [signature] Date 9-4-96
and
Supervisor or Operator [signature] Date 9-3-96
(Sign Once if Firm Offical and Operator)

MVT#1

51N 5W-32cd2. SE¼SW¼ sec. 32; 4,660 feet south and 3,350 feet west of NE cor. sec. 32. McGuire Water Corporation. Public water supply well (supplies 42 families), drilled by A. L. Washburn; depth, about 158 feet; 7½-HP electric motor and turbine pump. Situated on outwash valley plain. Measuring point: top of pump base; altitude, 2,118.2 feet; 7.0 feet below land-surface datum. Reference mark: chiselled cross in top of concrete curbing east of well; altitude, 2,125.5 feet; 0.3 foot above land-surface datum. Depth to water and altitude of water surface: June 1947, about 118 (about 2,007).

From: Nace, R., Fader, S., 1950. Records of Wells of the Rathdrum Prairie, Bonner and Kootenai Counties, Northern Idaho. USGS OFR 51-19.

RECEIVED

OHMA

Form 238-7
3/95

AUG 26 1998

Starships Consulting and Management Services

NORTHERN REGION IDWR

# IDAHO DEPARTMENT OF WATER RESOURCES

# WELL DRILLER'S REPORT

Corrected Copy

Use Typewriter or Ballpoint Pen

77895

Office U
Inspected by_____
Twp____Rge____ Sec____
____1/4____1/4____1/4
Lat: : : Long: : :

**1. DRILLING PERMIT NO.** 96-96-N-0286-000
Other IDWR No. _____

**2. OWNER** **Well Number:**
Name REMINGTON /ROCKY MTN LAND 676
Address PO BOX 2028
City CDA State ID Zip 83816-202

**3. LOCATION OF WELL by legal description**
sketch map location must agree with written location

POSTED

N

| | | | |
|---|---|---|---|
| | | | |
| | | | |
| X | | | |
| | | | |

E

S

Twp. 53 ☑ North or ☐ South
Rge. 03 ☐ East or ☑ West
Sec. 18 1/4 NW 1/4 SW 1/4
Gov't Lot 3 County KOOTENAI
Lat: : : Long: : :
Address of Well Site SHAMROCK RANCH
City ATHOL
(Give at least name of road + Distance to Road or Landmark)
_____ Blk. _____ Sub. Name _____

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

**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/FILTER PACK | | | AMOUNT | METHOD |
|---|---|---|---|---|
| Material | From | To | Sacks or Pounds | |
| BENTONITE | 0 | 100 | 15 SACKS | SLURRY / DRY |
| | | | | |
| | | | | |

Was drive shoe used? ☑ Y ☐ N Shoe Depth(s) 540
Was drive shoe seal tested? ☐ Y ☐ N How? _____

**8. CASING/LINER:**

| Diameter | From | To | Gauge | Material | Casing | Liner | Welded | Threaded |
|---|---|---|---|---|---|---|---|---|
| 8 | +2 | -540 | .250 | STEEL | ☑ | ☐ | ☑ | ☐ |
| | | | | | | | | |
| | | | | | | | | |

Length of Headpipe 5' 7" Length of Tailpipe _____

**9. PERFORATIONS/SCREENS**
☐ Perforations Method _____
☑ Screens Screen Type JOHNSON 15' 8" 80 SL

| From | To | Slot Size | Number | Diameter | Material | Casing | Liner |
|---|---|---|---|---|---|---|---|
| 539 | 554 | 80 | 0 | 8 | SCREEN | ☐ | ☐ |
| | | | | | | | |
| | | | | | | | |

**10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:**
460 ft. below ground Artesian pressure _____ lb.
Depth flow encountered _____ ft. Describe access port or control devices: _____

53 N 3 W 18

**11. WELL TESTS:**
☐ Pump ☐ Bailer ☑ Air ☐ Flowing Artesian

| Yield gal./min. | Drawdown | Pumping Level | Time |
|---|---|---|---|
| 30+ GPM /AIR | | | |
| | | | |
| | | | |

Water Temp. _____ Bottom Hole Temp _____
Water Quality test or comments: _____
_____ Depth first Water encountered _____

**12. LITHOLOGIC LOG:(Describe repairs or abandonment)**

| Bore Diam | From | To | Remarks: Lithology, Water Quality, Temperature | Water Y | Water N |
|---|---|---|---|---|---|
| 12 | 0 | 2 | TOPSOIL | ☐ | ☑ |
| 12 | 2 | 57 | 3/4 Gravel Coarse Sand | ☐ | ☑ |
| 12 | 57 | 59 | BOULDER | ☐ | ☑ |
| 12 | 59 | 100 | Gravels | ☐ | ☑ |
| 10 | 100 | 130 | Gravels Sand Coarse | ☐ | ☑ |
| 10 | 130 | 200 | 3/4 Gravels | ☐ | ☑ |
| 10 | 200 | 230 | Large gravels | ☐ | ☑ |
| 10 | 230 | 320 | Gravels With Sand | ☐ | ☑ |
| 10 | 320 | 400 | Gravels Large | ☐ | ☑ |
| 10 | 400 | 490 | Gravels | ☐ | ☑ |
| 10 | 490 | 540 | Gravels | ☑ | ☐ |
| 10 | 540 | 554 | Gravels | ☑ | ☐ |
| | 0 | 0 | 2) 8" K-Packers | ☐ | ☐ |

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NORTHERN REGION
IDWR

Completed Depth 554' (Measurable)
Date: Started 3/9/98 Completed 3/31/98

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

Firm Name H20 WellService, Inc. Firm No. 448
Firm Official [signature] Date 3/31/98
and
Supervisor or Operator [signature] Date 3/31/98
(Sign Once if Firm Offical and Operator)

(Jim McLeslie)

FORM 1/98

RECEIVED
MAR 18 1996
NORTHERN REGION
IDWR

POSTED

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 TYPEWRI BALLPOIN

PF#6

**1. WELL OWNER** 95-95-N-42-201

Name CITY OF POST FALLS ID.

Address 408 SPOKANE ST 83854

Owner's Permit No. 95-08862

**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 |
|---|---|---|---|
| .375 inches | 18" inches + | 2 feet | 255 feet |
| .375 inches | 16 inches | 305 feet | 315 feet |
| inches | inches | feet | feet |
| inches | inches | feet | feet |

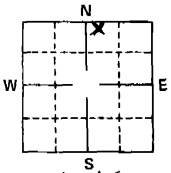
Was casing drive shoe used? ☒ Yes ☐ No
Was a packer or seal used? ☒ Yes ☐ No
Perforated? ☐ Yes ☒ No
How perforated? ☐ Factory ☐ Knife ☐ Torch
Size of perforation _____ inches by _____ inches

| Number | From | To |
|---|---|---|
| perforations | feet | feet |
| perforations | feet | feet |
| perforations | feet | feet |

Well screen installed? ☒ Yes ☐ No
Manufacturer's name HALLIBURTON
Type STAINLESS STEEL Model No. TELESCOPE
Diameter 18" Slot size 180 Set from 305 feet to 265 feet
Diameter 18" Slot size 100 Set from 265 feet to 255 feet
Gravel packed? ☐ Yes ☒ No ☐ Size of gravel _____
Placed from _____ feet to _____ feet
Surface seal depth 20' 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 2" PIPE WITH THREADED CAP

**6. LOCATION OF WELL**

Sketch map location must agree with written location.




Subdivision Name _____

Lot No. _____ Block No. _____

County KOOTENAI

NW ¼ NE ¼ Sec. 2, T. 50 (N) S, R. 5 E (W)

**7. WATER LEVEL**

Static water level 198 feet below land surface.
Flowing? ☐ Yes ☒ No G.P.M. flow _____
Artesian closed-in pressure _____ p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature 45°F. Quality GOOD

**8. WELL TEST DATA**

☒ Pump ☐ Bailer ☐ Air ☐ Other _____

| Discharge G.P.M. | Pumping Level | Hours Pumped |
|---|---|---|
| 1000 | 199 | 2 |
| 1500 | 199' 8" | 2 |
| 2000 | 200' 5" | 2 |
| 2500 | 201' 2" | 2 |

**9. LITHOLOGIC LOG**

| Hole Diam. | Depth From | Depth To | Material | Water Yes | Water No |
|---|---|---|---|---|---|
| 24 | 0 | 20 | GRAVEL 3" MINUS | | X |
| 18 | 20 | 73 | GRAVEL 3" MINUS | | X |
| 18 | 73 | 91 | PEA GRAVEL + SAND | | X |
| 18 | 91 | 160 | GRAVEL 3" MINUS | | X |
| 18 | 160 | 200 | GRAVEL ½" MINUS | | X |
| 18 | 200 | 260 | GRAVEL ½" MINUS | X | |
| 18 | 260 | 269 | COARSE SAND | X | |
| 18 | 269 | 315 | GRAVEL ½" MINUS | X | |

MICROFILMED
JAN 09 1998

**10.** Work started NOV 15-95 finished FEB 13-96

**11. DRILLERS CERTIFICATION**

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

Firm Name HOLMAN DRILLING CORP. No. 108

Address E 3410 9TH AVE SPOKANE WA 99202 Date MARCH 12-96

Signed by (Firm Official) Arnold E. Holman

and

(Operator) Gene A. Phinney

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

PF#9

Form 238-7
7/98
Starships Consulting and Management Services

IDAHO DEPARTMENT OF WATER RESOURCES

# WELL DRILLER'S REPORT

Office Use Only
Inspected by_____
Twp____Rge____ Sec____
____1/4____1/4____1/4
Lat: : : Long: : :

**1. WELL TAG NO.** D0056901
Drilling Permit No: 848523
Other IDWR No.

**2. OWNER** **Well Number:** 1367
Name CITY OF POST FALLS
Address 408 N. SPOKANE ST.
City POST FALLS State ID Zip 83854

**3. LOCATION OF WELL by legal description**
sketch map location must agree with written location

N / W / E / S

Twp. 50N ☑ North or ☐ South
Rge. 06W ☐ East or ☑ West
Sec. 01 ____ 1/4 SE 1/4 SE 1/4
Gov't Lot ____ County KOOTENAI
Lattitude: N47.42.537 Longitude: W117.01.505

Address of Well Site W. PF STANDPIPE
City POST FALLS
(Give at least name of road + Distance to Road or Landmark)
Lt.____ Blk. ____ Sub. Name ____

**4. USE:**
☐ Domestic ☑ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other ____

**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/FILTER PACK | | | AMOUNT | METHOD |
|---|---|---|---|---|
| Material | From | To | Sacks or Pounds | |
| 3/8 HOLE PLUG | 0 | 28 | 6,950 LBS | POURED |
| CEMENT GROUT | 28 | 75 | 144 sacks | PRESSURE GRTI |
| | | | | |

Was drive shoe used? ☐ Y ☐ N Shoe Depth(s)
Was drive shoe seal tested? ☐ Y ☐ N How?

**8. CASING/LINER:**

| Diameter | From | To | Gauge | Materi | Casing | Liner | Welded | Threaded |
|---|---|---|---|---|---|---|---|---|
| 20 | +2 | 250 | .375 | STEEL | ☑ | ☐ | ☑ | ☐ |
| | | | | | | | | |
| | | | | | | | | |

Length of Headpipe 10 Length of Tailpipe 5

**9. PERFORATIONS/SCREENS**
☐ Perforations Method
☑ Screens Screen Type Telescoping

| From | To | Slot Size | Number | Diameter | Material | Casing | Liner |
|---|---|---|---|---|---|---|---|
| 250 | 290 | 120 | 4 | 20 | SS | ☐ | ☐ |
| | | | | | | | |
| | | | | | | | |

**10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:**
150 ft. below ground Artesian pressure ____ lb.
Depth flow encountered 150 ft. Describe access port or control devices: ____

**11. WELL TESTS:**
☐ Pump ☐ Bailer ☑ Air ☐ Flowing Artesian

| Yield gal./min. | Drawdown | Pumping Level | Time |
|---|---|---|---|
| 3000+ | | 160 | 9 HRS |
| | | | |
| | | | |

Water Temp. COLD Bottom Hole Temp COLD
Water Quality test or comments: GOOD
____ Depth first Water encountered 150

**12. LITHOLOGIC LOG:(Describe repairs or abandonment)**

| Bore Diam | From | To | Remarks: Lithology, Water Quality, Temperature | Water Y | Water N |
|---|---|---|---|---|---|
| 24 | 0 | 2 | Top Soil | ☐ | ☑ |
| 24 | 2 | 41 | Gravels w/ Soils | ☐ | ☑ |
| 24 | 41 | 67 | Gravel w/ Cobbles | ☐ | ☑ |
| 24 | 67 | 149 | Sand, Gravel & Cobbles | ☐ | ☑ |
| 24 | 149 | 150 | Gravels w/ Boulders | ☑ | ☐ |
| 20 | 150 | 171 | Gravels w/ Boulders | ☑ | ☐ |
| 20 | 171 | 210 | Sand & Gravels | ☑ | ☐ |
| 20 | 210 | 231 | Gravels w/Boulders | ☑ | ☐ |
| 20 | 231 | 279 | Sand, Gravels & Cobbles | ☑ | ☐ |
| 20 | 279 | 295 | Gravels w/ Boulders | ☑ | ☐ |

Completed Depth 294.5 (Measurable)
Date: Started 8/1/2007 Completed 10/17/2007

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

Firm Name H20 WellService, Inc. Firm No. 448
Firm Official ____ Date 11-15-07
and
Supervisor or Operator ____ Date 10/18/2007
LOUIE HANNER (Sign Once if Firm Offical and Operator)

PFSP

50N 5W-10ab1. NW¼NE¼ sec. 10. Village of Post Falls (tenant: Wallin greenhouse). Industrial well, dug about 1912; depth, about 35 feet; about 35 feet of 36-inch brick casing; open bottom; electrically driven pump. Situated on river bank. Water reported soft. Altitude of water surface probably about the same as that of surface of nearby Spokane River. Measuring point: land surface at well site. Depth to water: Summer 1947: about 17.

From: Nace, R., Fader, S., 1950. Records of Wells of the Rathdrum Prairie, Bonner and Kootenai Counties, Northern Idaho. USGS OFR 51-19.

RAES

Form 2B
9/82

RECEIVED
APR 12 1984
Department of Water Resources

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

# WELL DRILLER'S REPORT

Idaho 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 BALLPOINT PEN

ENT'D

**1. WELL OWNER**

Name Stephanie Kucich, Wayne JeRome

Address North 5300 Ramsey Road
Rathdrum, ID.

Owner's Permit No. 95-84-N-67

**2. NATURE OF WORK**

☒ 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 | 8 inches + | 1 feet | 205 feet |
| .218 inches | 6 inches | 75 feet | 350 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? 6 inch. ☒ Yes ☐ No
How perforated? ☐ Factory ☐ Knife ☒ Torch
Size of perforation 1/16 inches by 6 inches

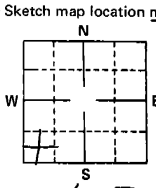
| Number | From | To |
|---|---|---|
| 10 perforations | 340 feet | 350 feet |
| perforations | feet | feet |
| perforations | feet | feet |

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 20 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 _____

MICROFILMED

**6. LOCATION OF WELL**

Sketch map location must agree with written location.




Subdivision Name _____
Lot No. _____ Block No. _____

County Kootenai County Id.

SW ¼ SW ¼ Sec. 11, T. 52 N/S, R. 4 E/W.

**7. WATER LEVEL**

Static water level 300 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 _____
*Describe artesian or temperature zones below.*

**8. WELL TEST DATA**

☐ Pump ☐ Bailer ☒ Air ☐ Other _____

| Discharge G.P.M. | Pumping Level | Hours Pumped |
|---|---|---|
| 80 + | 347 | 2½ |

**9. LITHOLOGIC LOG**

| Bore Diam. | Depth From | Depth To | Material | Water Yes | Water No |
|---|---|---|---|---|---|
| 10 | 0 | 5 | Brown Dirt | | X |
| | 5 | 125 | Brown [redacted], clay, sand, gravel | | X |
| 8 | 125 | 130 | Boulders | | X |
| | 130 | 175 | Clean sand + gravel | | X |
| 6 | 175 | 350 | sand, gravel, clay | X | |

RECEIVED
APR 9 1984
Department of Water Resources
Northern District Office

**10.** Work started 4/6/84 finished 4/6/84

**11. DRILLERS CERTIFICATION**

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

Firm Name United Drilling, Inc. Firm No. 414
Address P.O. Box 2499 Date 4/8/84
Signed by (Firm Official) [signature] Pres.
and
(Operator) Tim R Wolking

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

RATHG

USE TYPEWRITER OR BALL POINT PEN

State of Idaho
Department of Water Administration

# WELL DRILLER'S REPORT

POSTED

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

**1. WELL OWNER**

Name: City of Rathdrum
Address: Rathdrum Idaho 83858
Owner's Permit No. 95-78-N-127

**2. NATURE OF WORK**

■ New well ☐ Deepened ☐ Replacement

☐ Abandoned (describe method of abandoning)

**3. PROPOSED USE**

■ Domestic ☐ Irrigation ☐ Test ☐ Other (specify type)

☐ Municipal ☐ Industrial ☐ Stock ☐ Waste Disposal or Injection

**4. METHOD DRILLED**

■ Cable ☐ Rotary ☐ Dug ☐ Other

**5. WELL CONSTRUCTION**

Diameter of hole 16 inches Total depth 265 feet
Casing schedule: ■ Steel ☐ Concrete

| Thickness | Diameter | From | To |
|---|---|---|---|
| .375 inches | 16 inches | + 2 feet | 245 feet |
| inches | inches | feet | feet |
| inches | inches | feet | feet |
| inches | inches | feet | feet |
| inches | inches | feet | feet |

Was a packer or seal used? ☐ Yes ■ No
Perforated? ☐ Yes ■ No
How perforated? ☐ Factory ☐ Knife ☐ Torch
Size of perforation ____ inches by ____ inches

| Number | From | To |
|---|---|---|
| perforations | feet | feet |
| perforations | feet | feet |
| perforations | feet | feet |

Well screen installed? ■ Yes ☐ No
Manufacturer's name Yal Johnson
Type Stainless Steel Model No. 304
Diameter 4 1/2 Slot size 150 Set from 245 feet to 265 feet
Diameter ___ Slot size ___ Set from ___ feet to ___ feet

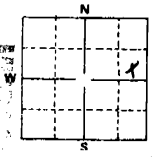
Gravel packed? ☐ Yes ■ No Size of gravel ____
Placed from ____ feet to ____ feet

Surface seal depth 40 Material used in seal ■ Cement grout ☐ Puddling clay ☐ Well cuttings

Sealing procedure used ☐ Slurry pit ■ Temporary surface casing ☐ Overbore to seal depth

**6. LOCATION OF WELL**

Sketch map location must agree with written location. 95




Subdivision Name ____
Lot No. ____ Block No. ____

County Kootenai

SE ¼ NE ¼ Sec. 36, T. 52 N/S, R. 4 E/W

**7. WATER LEVEL**

Static water level 218 feet below land surface
Flowing? ☐ Yes ■ No G.P.M. flow ____
Temperature ____ ° F. Quality ____
Artesian closed-in pressure ____ p.s.i.
Controlled by ☐ Valve ☐ Cap ☐ Plug

**8. WELL TEST DATA**

■ Pump ☐ Bailer ☐ Other

| Discharge G.P.M. | Draw Down | Hours Pumped |
|---|---|---|
| 1018 | 8 | 6 1/2 hr. |

**9. LITHOLOGIC LOG**

| Hole Diam. | Depth From | Depth To | Material | Water Yes | Water No |
|---|---|---|---|---|---|
| 24 | 0 | 30 | Coarse Gravel | | / |
| 16 | 30 | 31 | Bolder | | / |
| | 31 | 95 | Coarse Gravel | | / |
| | 95 | 96 | Bolder | | / |
| | 96 | 106 | Coarse Gravel | | / |
| | 106 | 109 | Bolders | | / |
| | 109 | 137 | Pebble Stones Large | | / |
| | 137 | 137 | Pebble Stones w/Sand & Gravel | | / |
| | 137 | 220 | Sand Gravel & Silt | | / |
| | 220 | 222 | Sand & Gravel | | / |
| | 222 | 243 | Sand & Some Gravel | / | |
| | 243 | 244 | Sand Coarse | / | |
| | 244 | 265 | Sand Coarse w/Some Small Gravel | / | |

RECEIVED
AUG 16 1978
Department of Water Resources

**10.**
Work started June 12-1978 Finished Aug 5-1978

**11. DRILLERS CERTIFICATION**

Firm Name E.H. Hofmann Drilling Co. Firm No. 105
Address Lake Pines Rd Spokane Date Aug 5 1978
Signed by (Firm Official) [signature]
and
(Operator) [signature]

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

RPSY

USE TYPEWRITER OR BALL POINT PEN

State of Idaho
Department of Water Administration

# WELL DRILLER'S REPORT

RECEIVED
JUN 11 1973
Department of Water Administration
Northern District Office

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

**1. WELL OWNER**

Name: Ross Point Water Assc.
Address: Post Falls Idaho
Owner's Permit No. 95-73-N-89

**2. NATURE OF WORK**

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

**3. PROPOSED USE**

☐ Domestic ☐ Irrigation ☐ Test
☑ Municipal ☐ Industrial ☐ Stock

**4. METHOD DRILLED**

☑ Cable ☐ Rotory ☐ Dug ☐ Other

**5. WELL CONSTRUCTION**

Diameter of hole 14 inches Total depth 273 feet
Casing schedule: ☑ Steel ☐ Concrete

| Thickness | Diameter | From | To |
|---|---|---|---|
| .375 inches | 14 inches | +2 feet | 238 feet |
| inches | inches | feet | feet |
| inches | inches | feet | feet |
| inches | inches | feet | feet |
| inches | inches | feet | feet |

Was a packer or seal used? ☐ Yes ☑ No
Perforated? ☐ Yes ☑ No
How perforated? ☐ Factory ☐ Knife ☐ Torch
Size of perforation ____ inches by ____ inches

| Number | From | To |
|---|---|---|
| perforations | feet | feet |
| perforations | feet | feet |
| perforations | feet | feet |

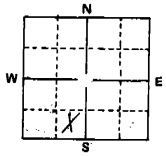
Well screen installed? ☑ Yes ☐ No
Manufacturer's name U.O.P. Johnson.
Type Stainless Steel Model No. 304
Diameter 12 Slot size 70 Set from 263 feet to 337 feet
Diameter ___ Slot size ___ Set from ___ feet to ___ feet

Gravel packed? ☐ Yes ☑ No Size of gravel ____
Placed from ____ feet to ____ feet

Surface seal? ☑ Yes ☐ No To what depth 206 feet
Material used in seal ☐ Cement grout ☑ Puddling clay

**6. LOCATION OF WELL**

Sketch map location must agree with written location.




County Kootenai
SE ¼ SW ¼ Sec. 35, T. 51 N/S, R. 5 E/W

**7. WATER LEVEL**

Static water level 206 feet below land surface
Flowing? ☐ Yes ☑ No G.P.M. flow ____
Temperature ____ ° F. Quality ____
Artesian closed-in pressure ____ p.s.i.
Controlled by ☐ Valve ☐ Cap ☐ Plug

**8. WELL TEST DATA**

☑ Pump ☐ Bailer ☐ Other

| Discharge G.P.M. | Draw Down | Hours Pumped |
|---|---|---|
| 1500 | 0 | 2 |

**9. LITHOLOGIC LOG**

| Hole Diam. | Depth From | Depth To | Material | Water Yes | Water No |
|---|---|---|---|---|---|
| 18 | 0 | 1 | Top Soil | | ✓ |
| ↑ | 1 | 20 | Sand Gravel & Boulders. | | ✓ |
| ↓ | 20 | 25 | Boulders & Gravel | | ✓ |
| 18 | 25 | 30 | Sand & Gravel (Large) | | ✓ |
| 14 | 30 | 40 | Sand & Gravel (Large) | | ✓ |
| | 40 | 137 | Sand & Gravel (Small) | | ✓ |
| | 137 | 219 | Sand Coarse (3/4 minus) | ✓ | |
| | 219 | 229 | Sand & Gravel (3" minus) | ✓ | |
| | 229 | 236 | Sand & Gravel (1" minus) | ✓ | |
| | 236 | 267 | Sand & Gravel (3/4" minus) | ✓ | |
| | 267 | 273 | Sand & Gravel Dolsof | ✓ | |
| | | | Clay | | |

**10.**
Work started March 26 1973 finished May 2-1973

**11. DRILLER'S CERTIFICATION**

This well was drilled under my supervision and this report is true to the best of my knowledge.

E. A. Hoffman Drilling Co. 105
Driller's or Firm's Name Number
E. S. Hoffman Jr.
Address
Coeur d'Alene Idaho 98814
Signed By May 30 1973
Date

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IDWR

Form 238-7
3/95

POSTED

IDAHO DEPARTMENT OF WATER RESOURCES

# WELL DRILLER'S REPORT

**Use Typewriter or Ballpoint Pen**

Office Use Only
Inspected by _____
Twp____ Rge____ Sec____
____1/4____1/4____1/4
Lat: : : Long: : :

**1. DRILLING PERMIT NO.** 96 - 95 - N - 70 -
Other IDWR No. 96-08834

**2. OWNER:**
Name City of Spirit Lake,ID
Address P.O.Box 309
City Spirit Lake State ID Zip 83869

**3. LOCATION OF WELL by legal description:**
Sketch map location must agree with written location.

N / W / E / S

Twp. 53 North X ☐ or South ☐
Rge. 4 East ☐ or West X
Sec. 5 , NE 1/4 (10 acres) SW 1/4 (40 acres) SE 1/4 (160 acres)
Gov't Lot ____ County Kootenai
Lat: : : Long: : :
Address of Well Site corner of Main & 12th City Spirit Lake
(Give at least name of road + Distance to Road or Landmark)

Lt.____ Blk.____ Sub. Name____

**4. USE:**
☐ Domestic X Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other____

**5. TYPE OF WORK** check all that apply (Replacement etc.)
X New Well ☐ Modify ☐ Abandonment ☐ Other____

**6. DRILL METHOD**
☐ Air Rotary ☐ Cable X Mud Rotary ☐ Other____

**7. SEALING PROCEDURES**

| SEAL/FILTER PACK Material | From | To | AMOUNT Sacks or Pounds | METHOD |
|---|---|---|---|---|
| bentonite | 0 | 20 | 20 | overbore |
| | | | | |
| | | | | |

Was drive shoe used? X Y ☐ N Shoe Depth(s)____
Was drive shoe seal tested? ☐Y ☐N How?____

**8. CASING/LINER:**

| Diameter | From | To | Gauge | Material | Casing | Liner | Welded | Threaded |
|---|---|---|---|---|---|---|---|---|
| 10 | +1½ | 597 | 250 | steel | X | ☐ | X | ☐ |
| | | | | | ☐ | ☐ | ☐ | ☐ |
| | | | | | ☐ | ☐ | ☐ | ☐ |

Length of Headpipe 11½' Length of Tailpipe 5'

**9. PERFORATIONS/SCREENS**
☐ Perforations Method____
XX Screens Screen Type Johnson (stainless) 8" pipe size

| From | To | Slot Size | Number | Diameter | Material | Casing | Liner |
|---|---|---|---|---|---|---|---|
| 606 | 626 | 100 | | 8 | steel | ☐ | ☐ |
| | | | | | | ☐ | ☐ |
| | | | | | | ☐ | ☐ |

**10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:**
547 ft. below ground Artesian pressure ____lb.
Depth flow encountered ____ft. Describe access port or control devices: cap

NESWSE 5 53N 4W

**11. WELL TESTS:**
☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

| Yield gal./min. | Drawdown | Pumping Level | Time |
|---|---|---|---|
| | | | |
| | No/test | | |
| | | | |

Water Temp. ____ Bottom hole temp. ____
Water Quality test or comments: ____
____ Depth first Water Encountered ____

**12. LITHOLOGIC LOG:** (Describe repairs or abandonment)

| Bore Dia. | From | To | Remarks: Lithology, Water Quality & Temperature | Water Y | Water N |
|---|---|---|---|---|---|
| 14 | 0 | 12 | sand&large gravel | | |
| | 12 | 21 | cobbles | | |
| | 21 | 75 | sand&gravel | | |
| | 75 | 85 | cobbles | | |
| | 85 | 98 | sand&gravel | | |
| | 98 | 110 | cobbles | | |
| | 110 | 130 | sand&gravel | | |
| | 130 | 135 | cobbles | | |
| | 135 | 200 | sand&gravel | | |
| | 200 | 230 | cobbles | | |
| | 230 | 265 | sand&gravel | | |
| | 265 | 280 | cobbles&boulders | | |
| | 280 | 335 | sand&gravel | | |
| | 335 | 360 | cobbles | | |
| | 360 | 410 | sand&gravel | | |
| | 410 | 425 | sand&gravel,cobbles | | |
| | 425 | 435 | sand&gravel | | |
| | 435 | 442 | cobbles | | |
| | 442 | 476 | sand&gravel | | |
| | 476 | 480 | cobbles | | |
| | 480 | 520 | sand&gravel | | |
| | 520 | 525 | sand&gravel,cobbles | | |
| | 525 | 580 | sand&gravel | X | |
| | 580 | 587 | boulders | X | |
| | 587 | 607 | sand&gravel,some tan clay | X | |
| | 607 | 632 | sand&gravel,some boulders | X | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | MICROFILMED | | |
| | | | | | |
| | | | | | |
| | | | | | |

Completed Depth 631 (Measurable)
Date: Started 5-10-95 Completed 8-28-95

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

Firm Name Bronson Water Wells Firm No. 360

Firm Official A.D. Bronson Date 9-15-95
and
Supervisor or Operator Clint Bronson Date____
(Sign once if Firm Official & Operator)

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TLWS

USE TYPEWRITER OR BALL POINT PEN

State of Idaho
Department of Water Administration

# WELL DRILLER'S REPORT

RECEIVED FEB 27 1975 Department of Water Resources

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

**1. WELL OWNER**

Name Twin Lakes Estates

Address Box 423 C.D.A., Idaho

Owner's Permit No. 95-7495

**2. NATURE OF WORK** 95-75-N-80

☑ New well ☐ Deepened ☐ Replacement

☐ Abandoned (describe method of abandoning)

**3. PROPOSED USE**

☐ Domestic ☐ Irrigation ☐ Test ☐ Other (specify type)

☑ Municipal ☐ Industrial ☐ Stock ☐ Waste Disposal or Injection

**4. METHOD DRILLED**

☑ Cable ☐ Rotary ☐ Dug ☐ Other

**5. WELL CONSTRUCTION**

Diameter of hole 8 inches Total depth 350 feet

Casing schedule: ☑ Steel ☐ Concrete

| Thickness | Diameter | From | To |
|---|---|---|---|
| .322 inches | 8 inches + | 1 feet | 350 feet |
| inches | inches | feet | feet |
| inches | inches | feet | feet |
| inches | inches | feet | feet |
| inches | inches | feet | feet |

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 | 331 feet | 349 feet |
| perforations | feet | 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 21' Material used in seal ☑ Cement grout ☐ Puddling clay ☐ Well cuttings

Sealing procedure used ☐ Slurry pit ☑ Temporary surface casing ☐ Overbore to seal depth

**6. LOCATION OF WELL**

Sketch map location must agree with written location.

Subdivision Name

Lot No. Block No.

County Kootenai

SE ¼ SE ¼ Sec. 17, T. 52 N S, R. 4 E W

**7. WATER LEVEL**

Static water level 285 feet below land surface

Flowing? ☐ Yes ☑ No G.P.M. flow

Temperature 33° F. Quality

Artesian closed-in pressure p.s.i.

Controlled by ☐ Valve ☐ Cap ☐ Plug

**8. WELL TEST DATA**

☐ Pump ☑ Bailer ☐ Other

| Discharge G.P.M. | Draw Down | Hours Pumped |
|---|---|---|
| 150+ | none | Surged & bailed for 20 hrs. |

**9. LITHOLOGIC LOG**

| Hole Diam. | Depth From | Depth To | Material | Water Yes | Water No |
|---|---|---|---|---|---|
| 8" | [redacted]" | 48' | 1" Gravel | | ✓ |
| | 48' | 57' | Bolder "blasted" | | ✓ |
| | 57' | 107' | 1" Gravel | | ✓ |
| | 107' | 128' | Bolder "blasted" | | ✓ |
| | 128' | 150' | 1" Gravel | | ✓ |
| | 150' | 154' | Bolder | | ✓ |
| | 154' | 207' | ¼ To 1½" Gravel | | ✓ |
| | 207' | 212' | Bolder | | ✓ |
| | 212' | 310' | ¼ To 1½" Gravel | | |
| | | | Hit H2O At 310' | ✓ | |
| | 310' | 350' | ¼ To 1½" Gravel | ✓ | |

**10.** Work started 12-20-74 finished 2-19-75

**11. DRILLERS CERTIFICATION** 228

Firm Name Carmon Development Firm No. [redacted]

Address St. Maries, Idaho Date 2-19-75

Signed by (Firm Official) John M Carmony

and

(Operator) Frank A. Martin

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USFS Nur

Form 238-7
1/78

ENT'D

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

USE TYPEWRITER
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** 95-93-N-32-000

Name U. S. FOREST SERVICE

Address 1201 IRONWOOD DRIVE
COEUR D ALENE ID 83814

Owner's Permit No. 95-02134

**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 |
|---|---|---|---|
| .375 inches | 20 inches + | 2 feet | 278 feet |
| .375 inches | 18 inches | 274 feet | 288 feet |
| .375 inches | 18 inches | 344 feet | 352 feet |
| .375 inches | 18 inches | 360 feet | 365 feet |

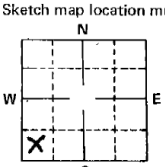
Was casing drive shoe used? ☒ Yes ☐ No
Was a packer or seal used? ☒ Yes ☐ No DOUBLE "K" PACKER
Perforated? ☐ Yes ☒ No
How perforated? ☐ Factory ☐ Knife ☐ Torch
Size of perforation _____ inches by _____ inches

| Number | From | To |
|---|---|---|
| _____ perforations | _____ feet | _____ feet |
| _____ perforations | _____ feet | _____ feet |
| _____ perforations | _____ feet | _____ feet |

Well screen installed? ☒ Yes ☐ No
Manufacturer's name JOHNSON
Type STAINLESS Model No. 18" P. SIZE
Diameter ____ Slot size ____ Set from ____ feet to ____ feet
SEE ATTACHED SHEET
Diameter ____ Slot size ____ Set from ____ feet to ____ feet
Gravel packed? ☐ Yes ☒ No ☐ Size of gravel _____
Placed from _____ feet to _____ feet
Surface seal depth 20 FT 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 TO BE INSTALLED BY OWNER

**6. LOCATION OF WELL**

Sketch map location must agree with written location.




Subdivision Name _____

Lot No. _____ Block No. _____

County KOOTENAI

SW ¼ SW ¼ Sec. 34, T. 51 N/S, R. 4 E/W

**7. WATER LEVEL**

Static water level 253 feet below land surface.
Flowing? ☐ Yes ☒ No G.P.M. flow _____
Artesian closed-in pressure _____ p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature 54 °F. Quality GOOD

**8. WELL TEST DATA**

☒ Pump ☐ Bailer ☐ Air ☐ Other _____

| Discharge G.P.M. | Pumping Level | Hours Pumped |
|---|---|---|
| 2500 | 257' 3" | 4 |
| 3000 | 257' 10" | 2 |
| 3500 | 258' 9" | 1 |
| 4000 | 260' 0" | 1 |

**9. LITHOLOGIC LOG** 89483

| Hole Diam. | Depth From | Depth To | Material | Water Yes | Water No |
|---|---|---|---|---|---|
| 24 | 0 | 36 | MED SAND | | X |
| 20 | 36 | 49 | SAND + GRAVEL 6" MINUS | | X |
| 20 | 49 | 105 | SAND + GRAVEL 1" MINUS | | X |
| 20 | 105 | 123 | GRAVEL 1" MINUS | | X |
| 20 | 123 | 127 | GRAVEL + COBBLES 8" MINUS | | X |
| 20 | 127 | 136 | GRAVEL + SAND CEMENTED | | X |
| 20 | 136 | 173 | GRAVEL + SAND 2" MINUS | | X |
| 20 | 173 | 195 | GRAVEL + SAND 3" MINUS | | X |
| 20 | 195 | 216 | GRAVEL + SAND 2" MINUS | | X |
| 20 | 216 | 232 | GRAVEL + SAND 1" MINUS | | X |
| 20 | 232 | 259 | GRAVEL + CLAY 3" MINUS | | X |
| 20 | 259 | 268 | GRAVEL + CLAY 2" MINUS | X | |
| 20 | 268 | 294 | GRAVEL + SAND 2" MINUS | X | |
| 20 | 294 | 298 | FINE SAND | X | |
| 20 | 298 | 320 | GRAVEL + FINE SAND 1" MIN | X | |
| 20 | 320 | 326 | GRAVEL + MED SAND 2" MIN | X | |
| 20 | 326 | 332 | COURSE SAND | X | |
| 20 | 332 | 334 | FINE SAND | X | |
| 20 | 334 | 341 | COURSE SAND | X | |
| 20 | 341 | 346 | GRAVEL + SAND 1" MINUS | X | |
| 20 | 346 | 348 | FINE SAND + CLAY | X | |
| 20 | 348 | 362 | COURSE SAND | X | |
| 20 | 362 | 365 | GRAVEL + SAND 1" MINUS | X | |

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JUL 09 1993
NORTHERN REGION
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AUG 04 1993
Department of Water Resources

**10.** Work started FEB 19-93 finished MAY 31-93

**11. DRILLERS CERTIFICATION**

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

Firm Name HOLMAN DRILLING CORP Firm No. 108

Address E 3410 9TH AVE SPOKANE WA 99202 Date July 1-93

Signed by (Firm Official) Arnold E. Holman

and

(Operator) Arnold E. Holman

TDK

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# Appendix B

Water Quality Sampling Procedures

&

Duplicate Results and Analysis

## 1.0 Ground Water Sampling Activities

### 1.1 Ground Water Sample Collection (inorganic, organic, radionuclides,& stable isotopes)

Three ground water sampling events were conducted in June 2012, September 2012 and January/February 2013. Ground water samples will be obtained using the existing pump and piping. All samples were collected in appropriate sample containers provided by the analytical laboratory or obtained from a laboratory supply vendor. The sample containers for each well were labeled well/surface water name, date, preservative, and collector and placed into a new zip-lock bag prior to the sampling event.

The water samples were obtained from an existing water sampling port prior to any treatment. New pair of nitrile gloves were worn for the sampling of each location. The time was recorded on the label for each container after a sample was obtained then immediately placed back into the zip-lock bag and placed into a cooler with blue ice. The cooler was then transferred to the analytical laboratory with a Chain of Custody record. Depending on the required analysis, some samples were hand delivered to the analytical laboratory within 24-hours and others were shipped. All water samples that were shipped to an analytical laboratory were completed using an overnight delivery schedule.

Water samples obtained for $^{15}N$ and $^{18}O$ sampling were temporarily stored in a secure sample freezer located at the DEQ's Coeur d'Alene Regional Office. Sufficient head space was left in the $^{15}N$ and $^{18}O$ containers to allow the sample to be frozen at a temperature of approximately -10ºCelcius. After all the samples were obtained, they were packed into a cooler with blue ice and shipped overnight to the analytical laboratory.

Water samples obtained for $^{2}H$ and $^{18}O$ sampling were also temporarily stored in a secure sample refrigerator located at the DEQ's Coeur d'Alene Regional Office. The $^{2}H$ and $^{18}O$ containers were kept refrigerated at a temperature of approximately 4ºCelcius. After all the samples were obtained, they were packed into a cooler with blue ice and shipped overnight to the analytical laboratory.

### 1.2 Field Measurements

Field measurements include water quality parameters of pH, temperature, and conductivity measured in the discharge water during the sampling event. The water quality parameters were measured using a YSI Model 63 handheld digital meter. A two or three point calibration was performed with the YSI Model 63 handheld digital meter before each day of sampling using standard buffer solutions.

The purpose of the obtaining the water quality parameters was to 1) ensure that the well has been properly purged and does not represent stagnant water in the well casing or within or near the screen section and 2) provide water quality parameters

that are associated with the analytical results. Water quality stabilization criteria include:

1. Conductivity +/- 5%;
2. Temperature +/- 5%
3. pH +/- 0.1 unit

Dissolved oxygen was measured in the discharge water during the sampling event using a YSI Model 51B. The YSI Model 51B was calibrated at each site before each sample was obtained using elevation and oxygen content in ambient air. A new sensor membrane was installed prior to each of the three sampling events.

**20. Surface Water Sampling Activities**

2.1 Surface Water Sample Collection

The surface water bodies were sampled at locations accessed from shore. Surface water samples were obtained as grab samples from shore using the containers supplied by the analytical laboratory.

2.2 Field Measurements

Field measurements include water quality parameters of pH, temperature, and conductivity measured at the same location that the surface water sample was obtained. The water quality parameters were measured using a YSI Model 63 handheld digital meter. A two or three point calibration was performed with the YSI Model 63 handheld digital meter before each day of sampling using standard buffer solutions.

**3.0 Precipitation Sampling Activities**

3.1 Precipitation Sampling Site Selection

The precipitation samplers were constructed of 4-inch diameter PVC pipes with end caps glued to bottom and open at the top. A plastic funnel was placed into the top opening with a diameter slightly large then the PVC tube to direct precipitation into the sampler. The funnel was covered with 1-inch steel netting that was clamped onto the outside of the PVC tube. The steel netting secured the funnel in place and prevented large windblown objects from entering and blocking the throat of the funnel. A 0.5- to 1.0 centimeter thick layer of mineral oil was placed into the PVC tube to prevent evaporation and allow periodic visits to collect the water samples for analysis.

3.2 Sample Collection

A 60-cc syringe was used to draw up a sample of water from below the oil layer in the container. Two paper coffee filters were placed into the top of the sample container. Oil was wiped off the outside of the syringe, then the precipitation sample was gently ejected through the filters into the sample container. The filters absorb any residual oil in the water sample and allow an oil free sample for analysis. The filtering process is fast enough that no fractionation occurs.

## 4.0 CFCs and $SF_6$ Sampling Activities

Ground water samples were obtained for CFCs and $SF_6$ using the existing pump and piping after sufficient purging. The CFCs were sampled using a ½-nch diameter copper tube attached to the sample tap using brass fittings. The water from the sample tap would flow through the copper tubing into a 125 ml boston-round clear glass sample container, which was in turn placed into a 4-liter glass beaker. The beaker was allowed to overflow for approximately five-minutes. The copper tube was removed from the beaker and a threaded aluminum lined cap was used to seal the sample container prior to removal from the 4-liter glass beaker filled with water. The cap was secured with electrical tape and the container was then inverted and placed into a cooler with blue ice.

Ground water samples were obtained for $SF_6$ analysis using the same copper tubing and brass fitting described above. The copper tubing was placed into a 1-liter, amber, boston round bottles. The sample container was allowed to overflow for approximately five-minutes. The copper tube was removed and a threaded polyseal cone lined cap was used to seal the sample container. The cap was then secured with electrical tape and the container was then inverted and placed into a cooler with blue ice.

Water samples obtained for CFCs and $SF_6$ sampling were temporarily stored inverted in a secure sample refrigerator located at the DEQ's Coeur d'Alene Regional Office. The CFCs and $SF_6$ containers were kept refrigerated at a temperature of approximately 4ºCelcius. After all the samples were obtained, they were packed into a cooler with blue ice in an inverted position and shipped overnight to the analytical laboratory.

## 5.0 Dissolved $N_2$ and Ar Gas Sampling Activities

Ground water samples were obtained for dissolved $N_2$ and Ar gas using the existing pump and piping and after sufficient purging. The dissolved $N_2$ and Ar were sampled using a ½-nch diameter copper tube attached to the sample tap using brass fittings. The water from the sample tap would flow through the copper tubing into a 150 ml boston-round clear glass sample container, which was in turn placed into a 4-liter glass beaker. The beaker was allowed to overflow for approximately five-minutes. The copper tube was removed from the beaker and the sample container is sealed with a rubber stopper. A syringe needle is then placed through the stopper into the container while still submerged to remove any potential air. The syringe needle was then removed. The sample container was then inverted and placed into a cooler with blue ice.

Water samples obtained for dissolved $N_2$ and Ar gas sampling were temporarily stored inverted in a secure sample refrigerator located at the DEQ's Coeur d'Alene Regional Office. The dissolved $N_2$ and Ar gas containers were kept refrigerated at a temperature of approximately 4ºCelcius. After all the samples were obtained, they were packed into a cooler with blue ice in an inverted position and shipped overnight to the analytical laboratory.

## 6.0 Duplicate Results and Analysis

Field duplicates were obtained during each sampling event as part of the quality assurance/quality control procedures. The duplicates were submitted to the analytical laboratories as blind duplicates with no indication as to the sample location or time of sampling. The relative percent difference were calculated for each sample and duplicate and can be seen in Tables B1 to B3. If either the sample or duplicate had analytical results below the detection limit no comparison was made. All the VOC and SOC analytical results were below detection limits and no analysis was completed for these analytes. All results were less than the 20 percent difference acceptable limit with the exception of the MDLA analytical results for the September 2012 sampling event. The analytical results for potassium, chloride, sulfate and arsenic exceeded the limit.

Table B1 Analytical Results and Duplicate Analysis
June 2012

| Constituent (mg/l) | Analytical Results | | Blind Duplicate Results | | Relative Percent Difference[1] | |
|---|---|---|---|---|---|---|
| | PF#6 | ATH#2 | PF#6 | ATH#2 | PF#6 | ATH#2 |
| Inorganics | | | | | | |
| Calcium | 23.20 | 34.80 | 22.80 | 34.30 | 1.74 | 1.45 |
| Sodium | 2.67 | 3.47 | 2.64 | 3.46 | 1.13 | 0.29 |
| Magnesium | 6.75 | 15.10 | 6.66 | 14.90 | 1.34 | 1.33 |
| Potasium | 1.71 | 1.91 | 1.69 | 1.89 | 1.18 | 1.05 |
| Chloride | 3.82 | 3.62 | 3.69 | 3.72 | 3.46 | 2.72 |
| Sulfate | 5.19 | 15.50 | 4.97 | 15.00 | 4.33 | 3.28 |
| Bicarbonate | 77.90 | 133.00 | 77.80 | 133.00 | 0.13 | 0.00 |
| Bromide | <0.01 | <0.01 | <0.01 | <0.01 | No Data | No Data |
| Nitrate-Nitrogen | 0.64 | 1.31 | 0.61 | 1.24 | 4.80 | 5.49 |
| Arsenic | <0.0030 | <0.0030 | <0.0030 | <0.0030 | No Data | No Data |
| Uranium | <0.0010 | 0.00291 | <0.0010 | 0.00292 | No Data | 0.34 |
| Ra 226 & 228[2] | <1.6 | 5.70 | <1.4 | <1.3 | No Data | No Data |
| Organics | | | | | | |
| TOC | <1.00 | <1.00 | <1.00 | <1.00 | No Data | No Data |
| VOC | <0.005 | <0.005 | <0.005 | <0.005 | No Data | No Data |
| SOC | <0.005 | <0.005 | <0.005 | <0.005 | No Data | No Data |
| Stable Isotopes | | | | | | |
| $^{15}N$ (Nitrate)[3] | 4.63 | 6.43 | 5.09 | 6.58 | 9.47 | 2.31 |
| $^{18}O$ (Nitrate)[3] | -7.07 | -6.87 | -6.37 | -6.35 | -10.42 | -7.87 |
| $^{2}H$ ($H_2O$)[4] | -110.19 | -121.47 | -110.49 | -120.50 | -0.27 | -0.80 |
| $^{18}O$ ($H_2O$)[4] | -14.60 | -15.77 | -14.60 | -15.81 | 0.00 | -0.25 |

[1]Relative Percent Difference =[|S-D|/(0.5(S+D))] x 100

S = Sample concentration

D = Duplicate concentration

Acceptable Relative Percent Difference is less than 20%

[2] Concentration in piC/L

[3]Concentration in δ(‰)

[4] Concentration in δ

Table B2 Analytical Results and Duplicate Analysis
September 2012

| Constituent (mg/l) | Analytical Results | | Blind Duplicate Results | | Relative Percent Difference[1] | |
|---|---|---|---|---|---|---|
| | HLWA#1 | MDLA | HLWA#1 | MDLA | HLWA#1 | MDLA |
| Inorganics | | | | | | |
| Calcium | 56.60 | 32.40 | 57.80 | 32.40 | 2.10 | 0.00 |
| Sodium | 4.58 | 3.24 | 4.65 | 3.20 | 1.52 | 1.24 |
| Magnesium | 9.56 | 15.40 | 9.76 | 15.20 | 2.07 | 1.31 |
| Potasium | 2.21 | 1.85 | 2.27 | 2.37 | 2.68 | 24.64 |
| Chloride | 5.24 | 1.68 | 5.56 | 4.13 | 5.93 | 84.34 |
| Sulfate | 5.10 | 15.90 | 5.13 | 11.10 | 0.59 | 35.56 |
| Bicarbonate | 190.00 | 143.00 | 188.00 | 142.00 | 1.06 | 0.70 |
| Bromide | <0.01 | <0.01 | <0.01 | <0.01 | No Data | No Data |
| Arsenic | 0.0013 | 0.0037 | <0.0030 | 0.0062 | 14.29 | 50.51 |
| Organics | | | | | | |
| TOC | <1.00 | <1.00 | <1.00 | <1.00 | No Data | No Data |
| Stable Isotopes | | | | | | |
| $^{2}H$ $(H_2O)$[2] | -109.15 | -114.30 | -108.11 | -112.14 | -0.96 | -1.91 |
| $^{18}O$ $(H_2O)$[2] | -13.99 | -14.91 | -13.87 | -14.71 | -0.86 | -1.35 |

[1]Relative Percent Difference =[|S-D|/(0.5(S+D))] x 100

S = Sample concentration

D = Duplicate concentration

Acceptable Relative Percent Difference is less than 20%

[2] Concentration in δ

Table B3 Analytical Results and Duplicate Analysis
January 2013

| Constituent | Analytical Results | | | Blind Duplicate Results | | | Relative Percent Difference[1] | | |
|---|---|---|---|---|---|---|---|---|---|
| (mg/l) | RATHG | ATH2 | OHMA | RATHG | ATH2 | OHMA | RATHG | ATH2 | OHMA |
| Inorganics | | | | | | | | | |
| Calcium | 28.40 | 34.60 | 75.20 | 28.60 | 34.60 | 76.90 | 0.70 | 0.00 | 2.24 |
| Sodium | 4.29 | 3.77 | 4.99 | 4.33 | 3.77 | 5.09 | 0.93 | 0.00 | 1.98 |
| Magnesium | 7.48 | 15.40 | 13.70 | 7.56 | 15.40 | 13.90 | 1.06 | 0.00 | 1.45 |
| Potasium | 1.61 | 2.02 | 4.11 | 1.63 | 2.02 | 4.23 | 1.23 | 0.00 | 2.88 |
| Chloride | 5.98 | 5.68 | 18.50 | 6.71 | 5.72 | 18.60 | 11.51 | 0.70 | 0.54 |
| Sulfate | 5.10 | 15.60 | 7.59 | 4.90 | 15.60 | 7.55 | 4.00 | 0.00 | 0.53 |
| Bicarbonate | 95.80 | 135.00 | 235.00 | 95.40 | 136.00 | 232.00 | 0.42 | 0.74 | 1.28 |
| Bromide | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | No Data | No Data | No Data |
| Arsenic | 0.0014 | 0.0025 | <0.0030 | <0.0030 | <0.0030 | <0.0030 | 6.90 | No Data | No Data |
| Organics | | | | | | | | | |
| TOC | <1.00 | <1.00 | 1.09 | <1.00 | <1.00 | <1.00 | No Data | No Data | No Data |
| Stable Isotopes | | | | | | | | | |
| $^{2}H$ $(H_2O)$[2] | -106.03 | -117.98 | -109.58 | -106.20 | -117.91 | -107.91 | -0.16 | -0.06 | -1.54 |
| $^{18}O$ $(H_2O)$[2] | -14.07 | -15.82 | -15.12 | -14.22 | -15.93 | -15.91 | -1.06 | -0.69 | -5.09 |

[1]Relative Percent Difference =[|S-D|/(0.5(S+D))] x 100

S = Sample concentration

D = Duplicate concentration

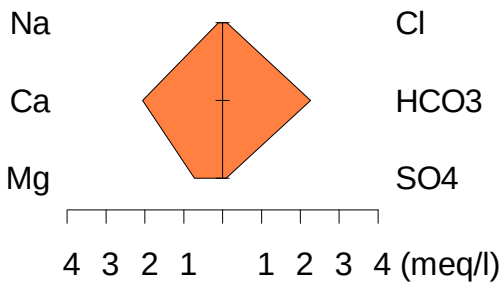
Acceptable Relative Percent Difference is less than 20%

[2] Concentration in δ

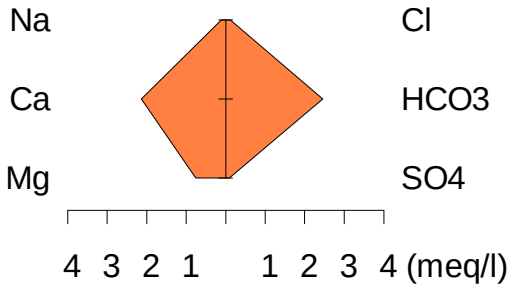
# Appendix C

Stiff Diagrams

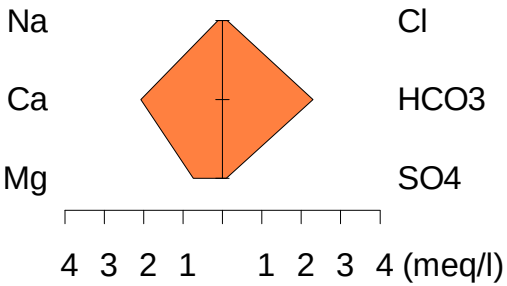
**ALPWS, 6/19/2012**



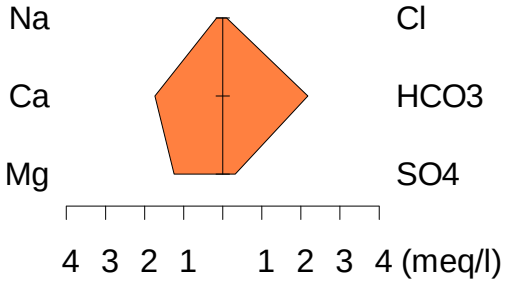

**ALPWS, 9/27/2012**



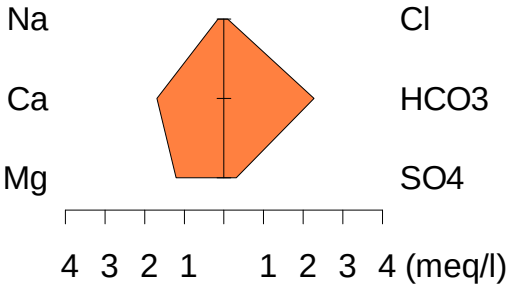

**ALPWS, 2/4/2013**




**ATH2, 6/12/2012**




**ATH2, 9/25/2012**

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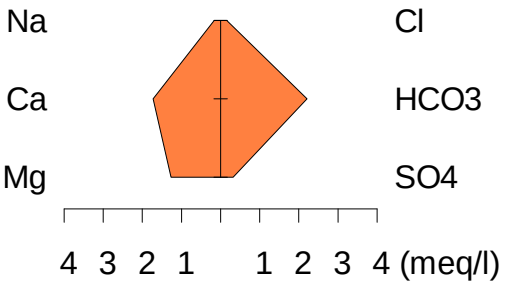
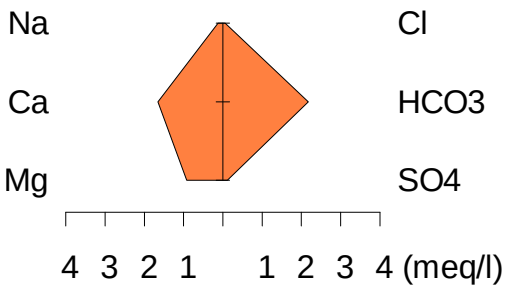
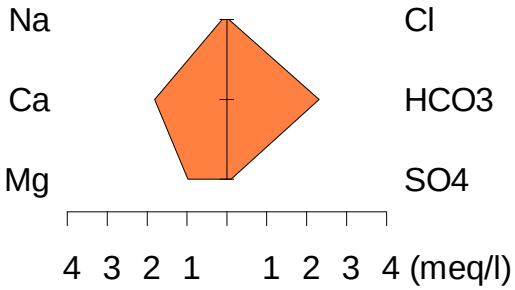


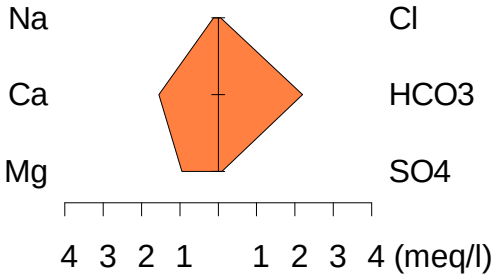
**BTRE, 6/14/2012**



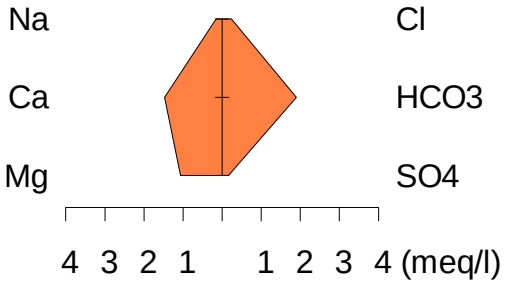

**BTRE, 10/2/2012**




**BTRE, 2/5/2013**




**C4SW, 6/12/2012**

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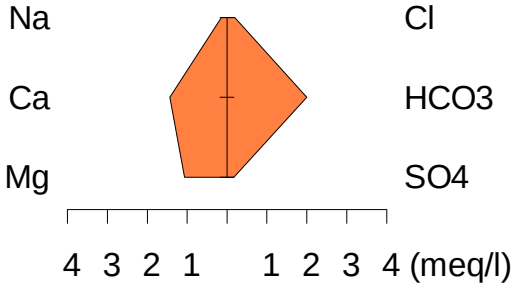


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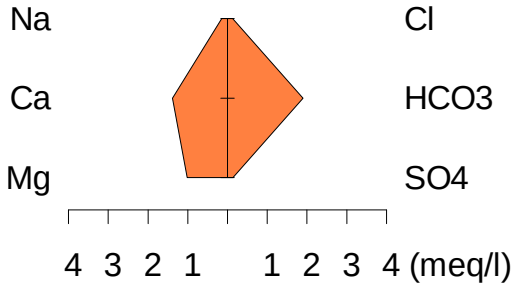
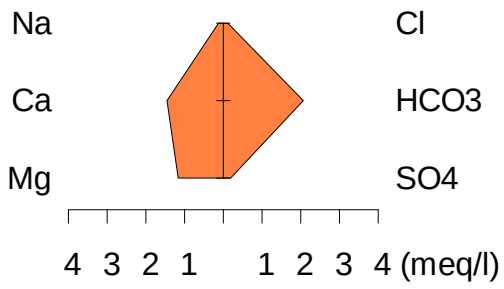
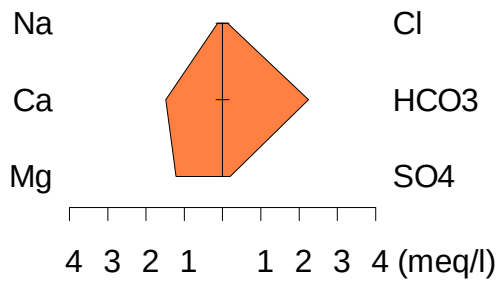


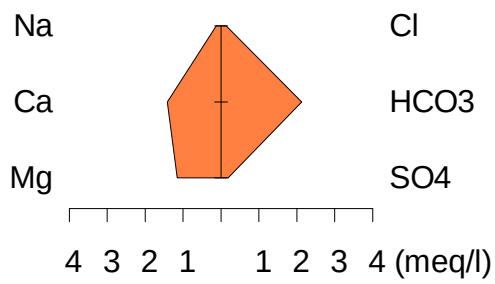
**CHOW, 6/12/2012**



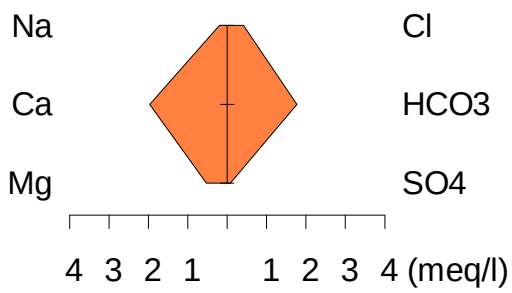

**CHOW, 9/25/2012**



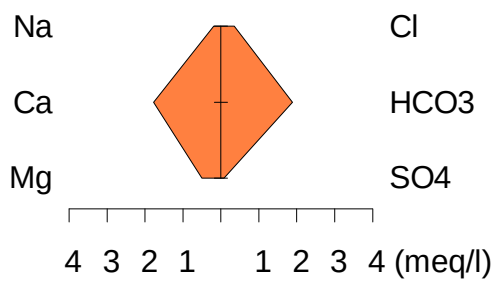

**CHOW, 1/29/2013**



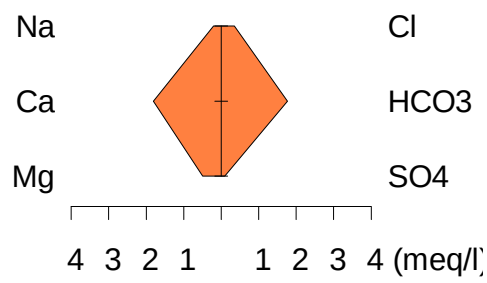

**CHSA, 6/13/2012**



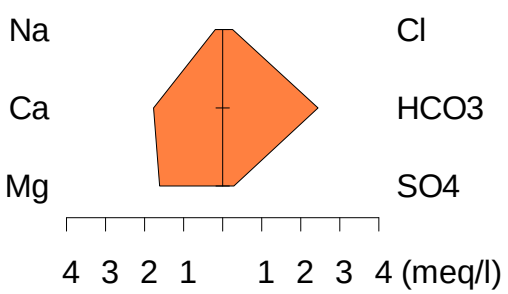

**CHSA, 9/26/2012**




**CHSA, 1/30/2013**



**CLAW, 6/12/2012**

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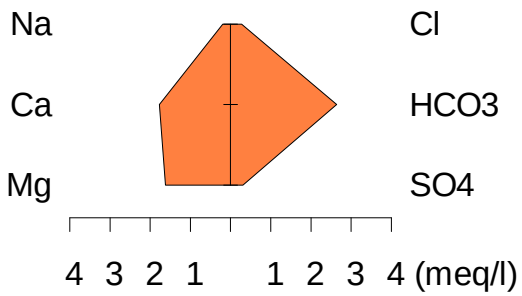


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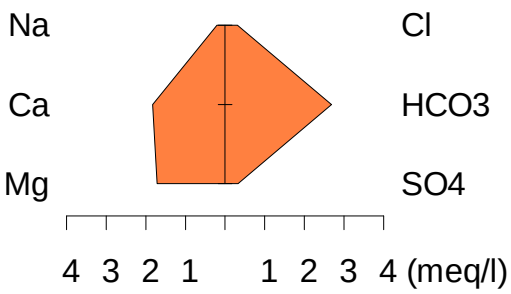
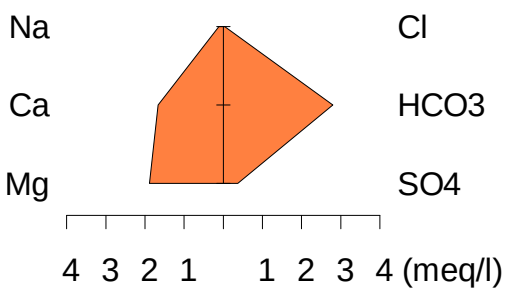



**DIBE, 6/18/2012**

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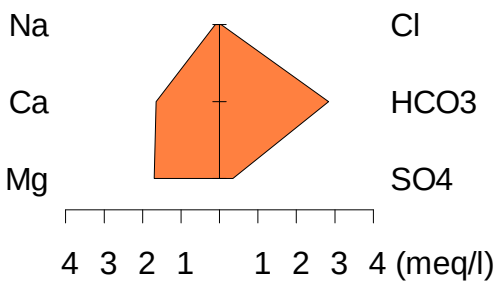
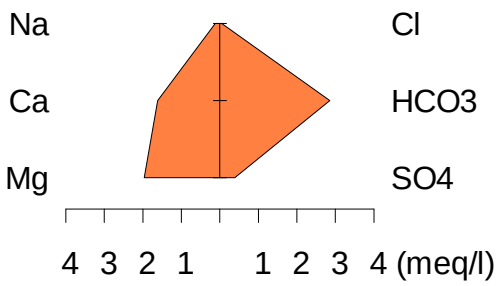
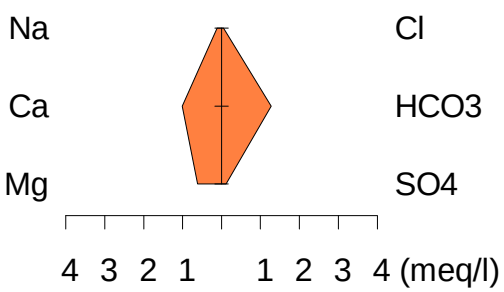



**DIBE, 2/5/2013**



**EASA, 6/13/2012**

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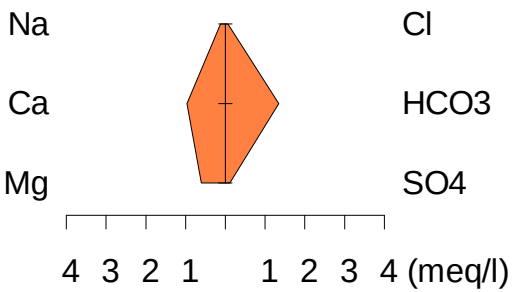


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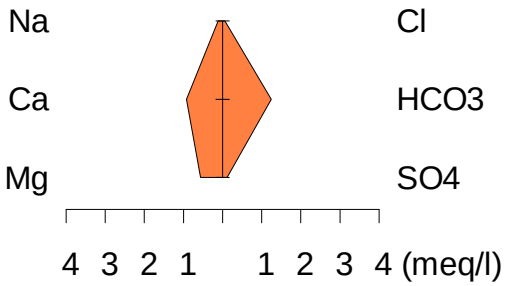


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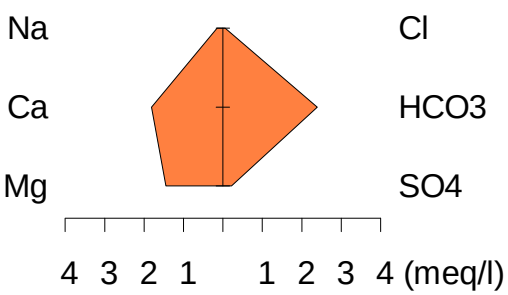


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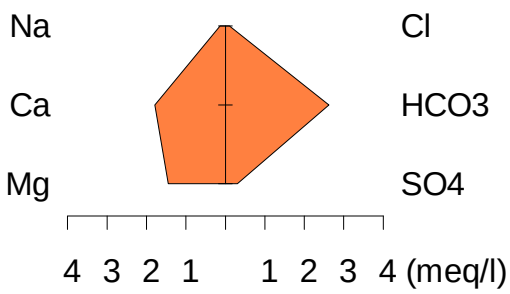


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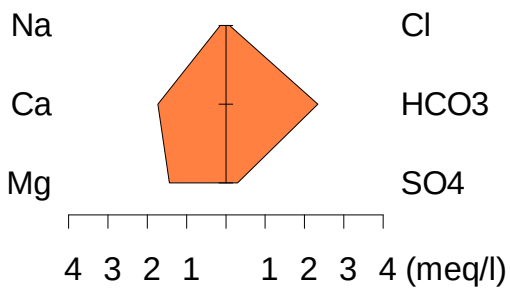

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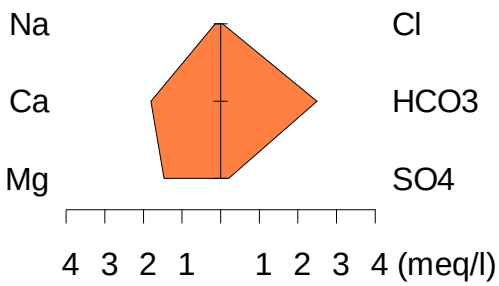


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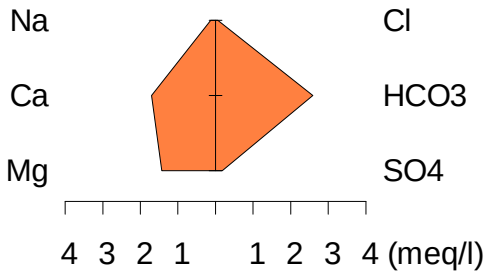


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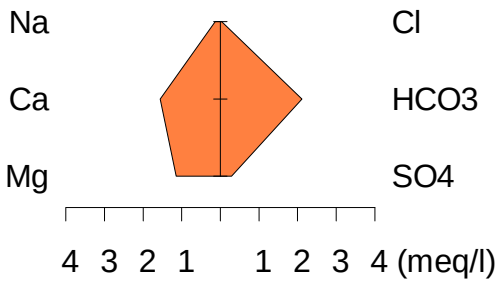
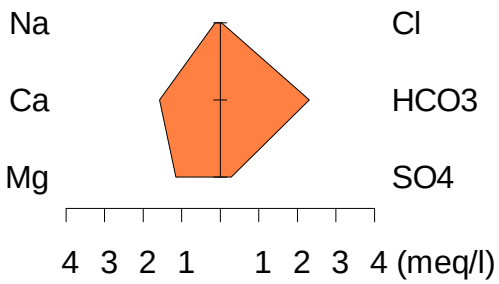
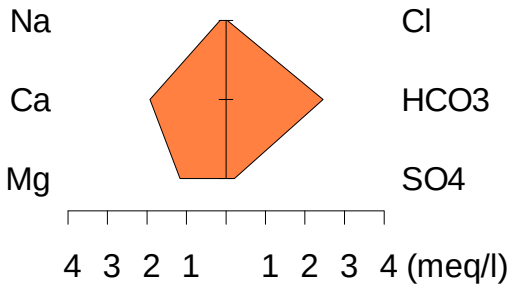


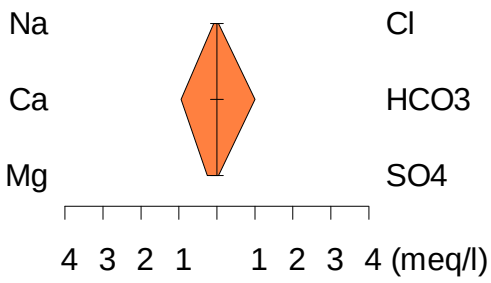

**FSP3, 9/25/2012**



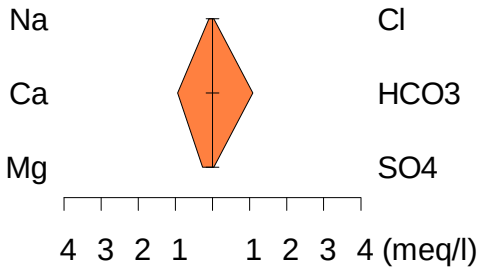

**FSP9, 2/1/2013**



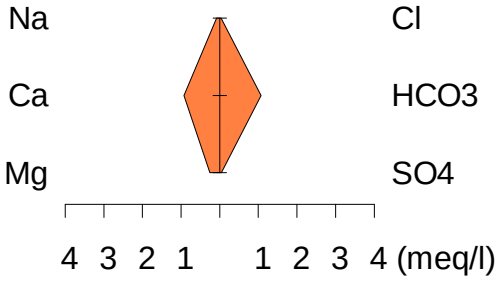
**HAY#2, 6/13/2012**



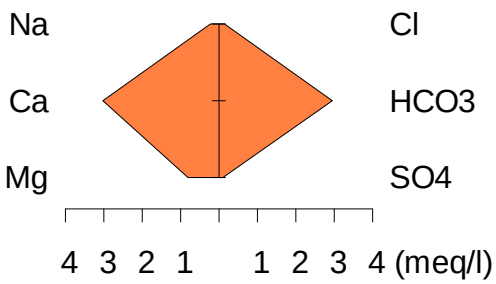

**HAY#2, 9/26/2012**



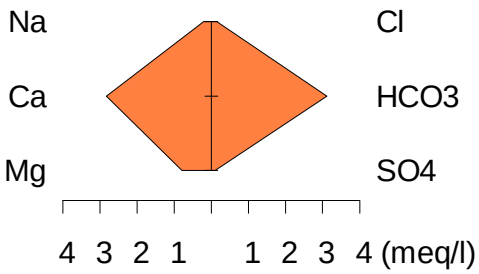

**HAY#2, 1/30/2013**



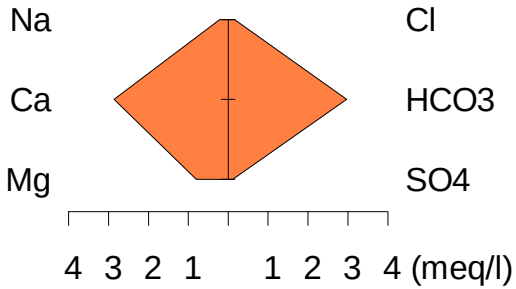

**HLWA#1, 6/11/2012**



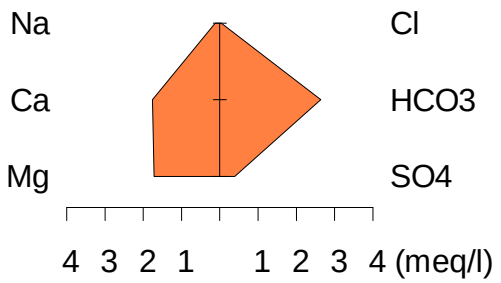

**HLWA#1, 9/24/2012**



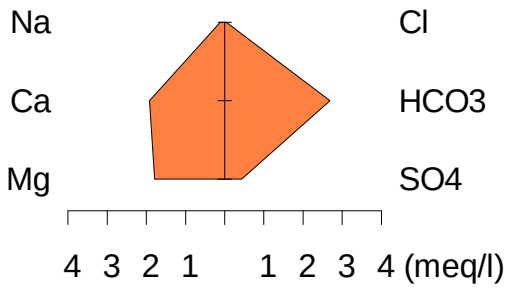

**HLWA#1, 1/28/2013**



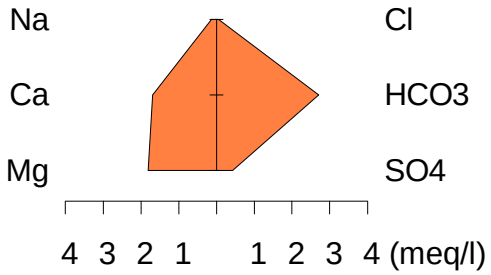
**HVWS, 6/14/2012**



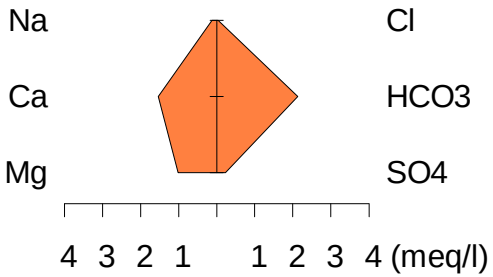

**HVWS, 10/2/2012**




**HVWS, 2/5/2013**




**HWY54, 6/26/2012**

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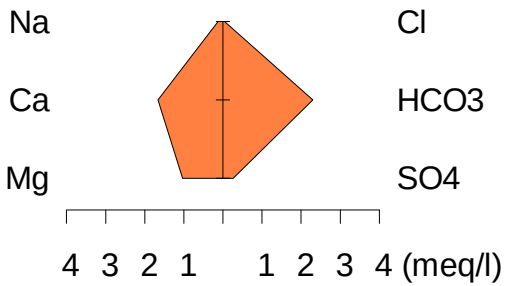
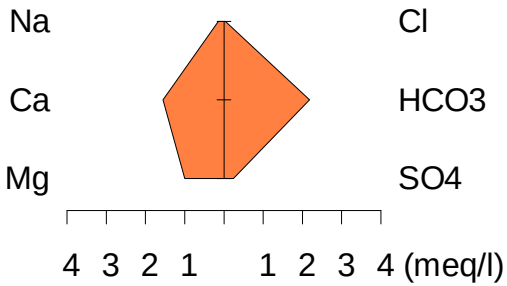
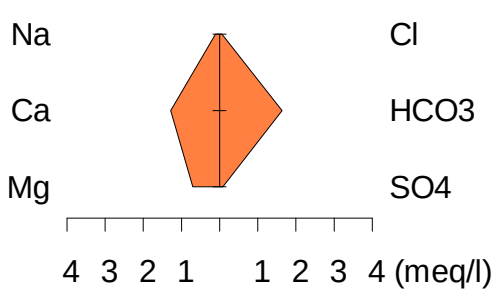


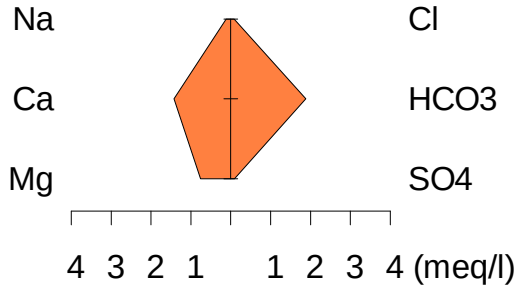

**HWY54, 2/6/2013**



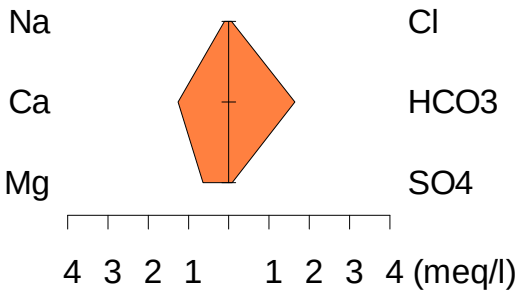
**LAAW, 6/12/2012**



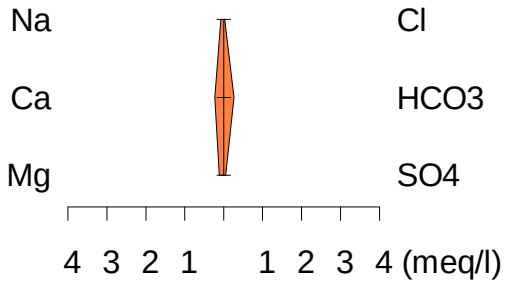

**LAAW, 9/25/2012**



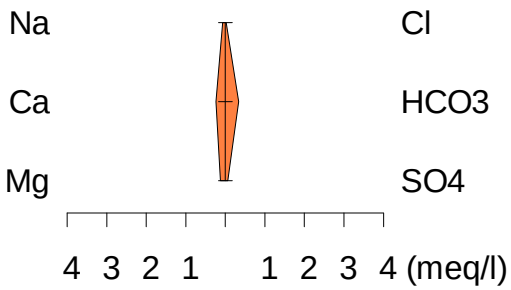

**LAAW, 1/29/2013**



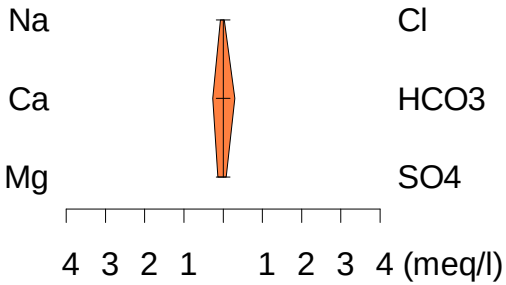

**LCDA, 6/14/2012**



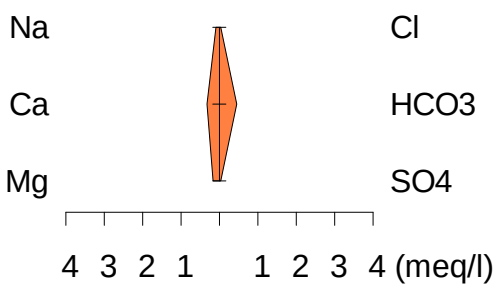

**LCDA, 10/1/2012**




**LCDA, 1/31/2013**



**LHAY, 6/14/2012**

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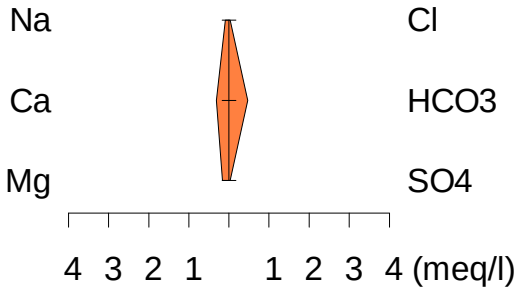


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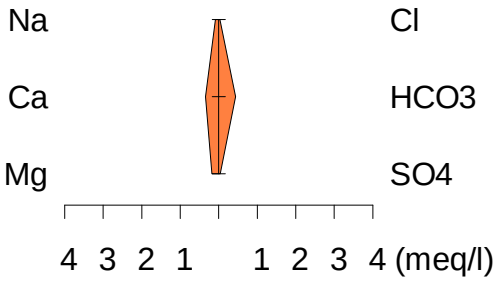
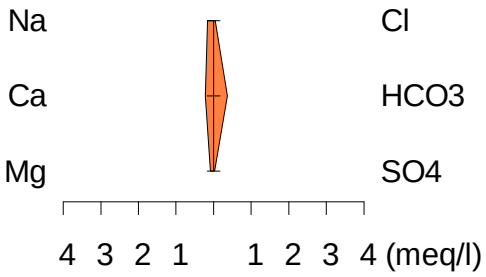
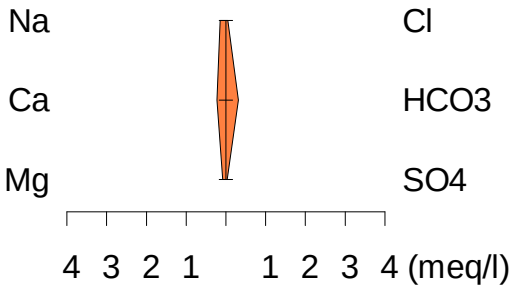


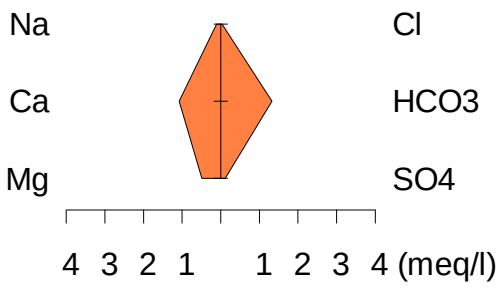

**LHSR, 10/1/2012**



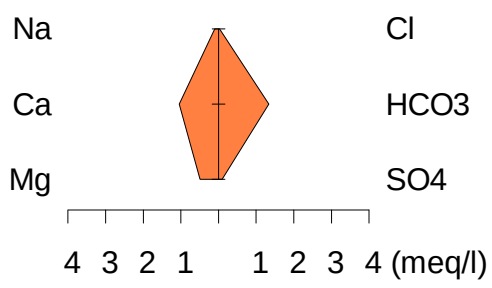

**LHSR, 1/31/2013**



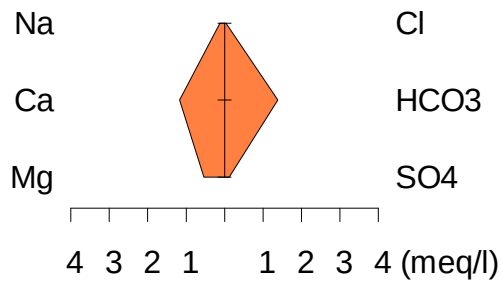
**LPDO, 6/14/2012**



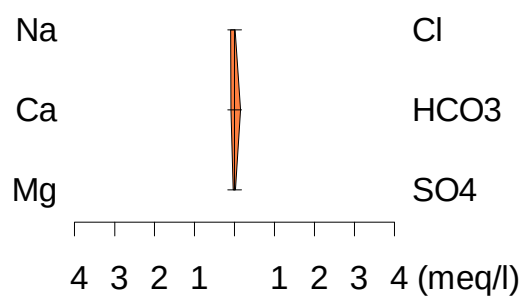

**LPDO, 10/1/2012**



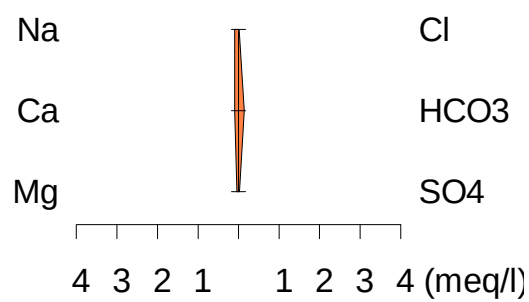

**LPDO, 2/1/2013**



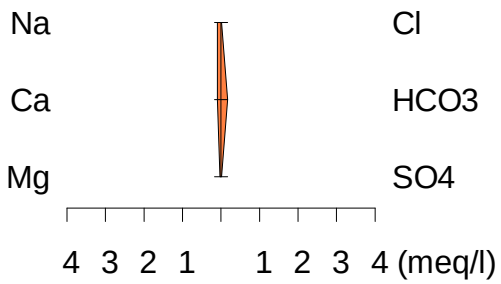

**LSPRT, 10/1/2012**



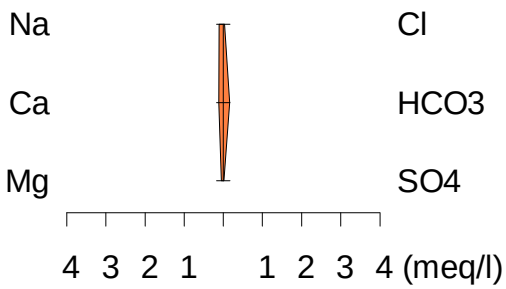

**LSPRT, 2/1/2013**



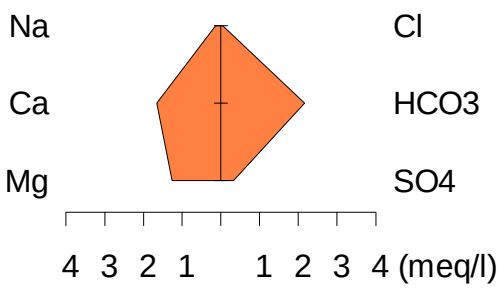
**LTWN, 10/1/2012**



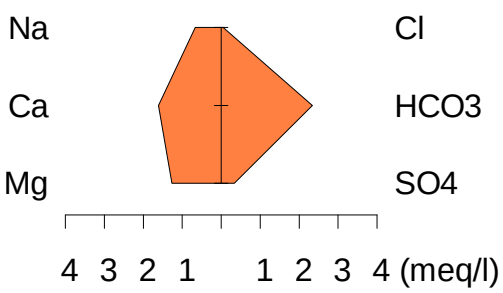

**LTWN, 2/1/2013**



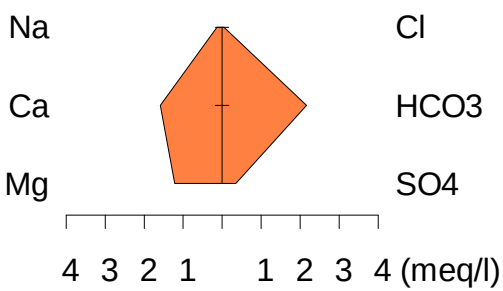

**MDLA, 6/13/2012**



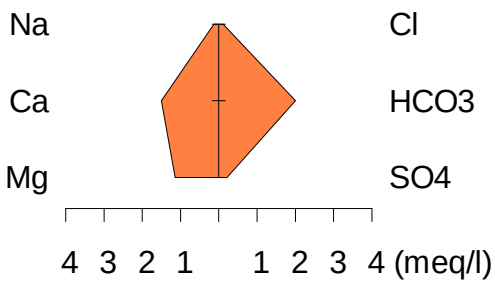

**MDLA, 9/26/2012**



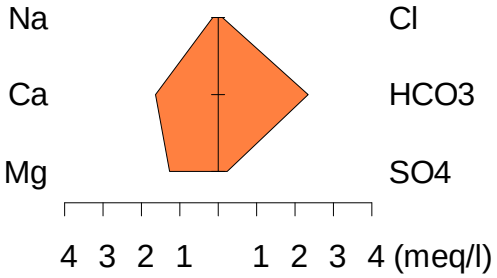

**MDLA, 1/30/2013**



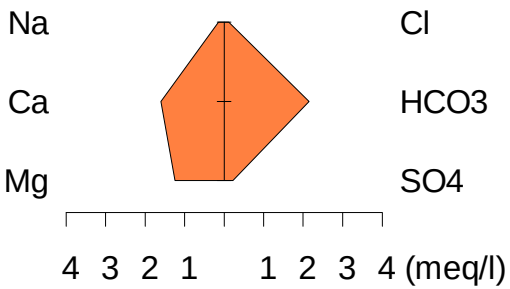
**MVT#1, 6/13/2012**



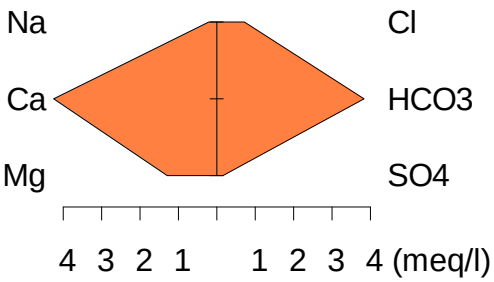

**MVT#1, 9/26/2012**



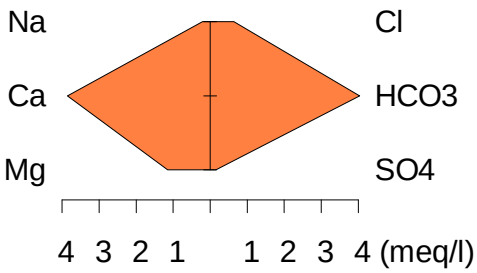

**MVT#1, 1/28/2013**



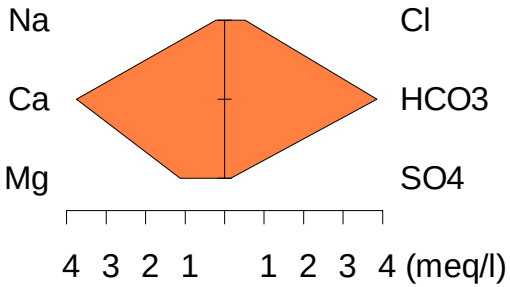

**OHMA, 6/13/2012**



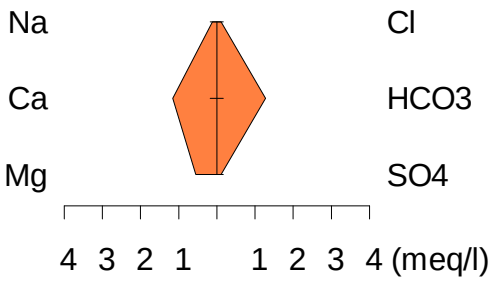

**OHMA, 9/26/2012**



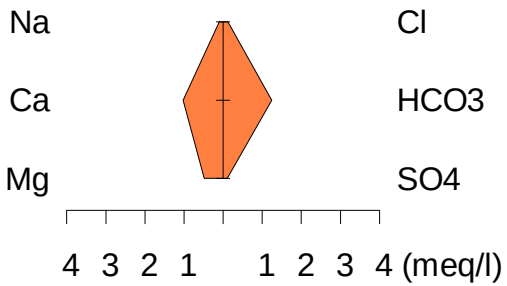

**OHMA, 1/30/2013**



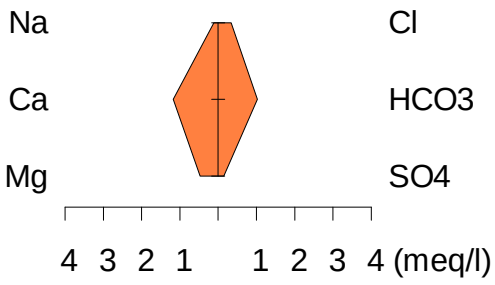
**PF#6, 6/11/2012**




**PF#6, 9/24/2012**




**PF#6, 1/28/2013**

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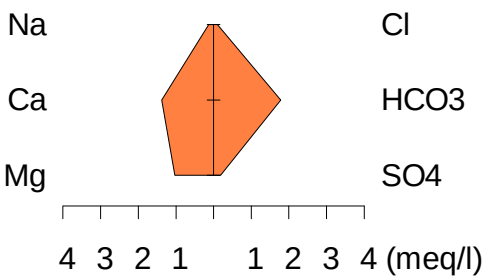


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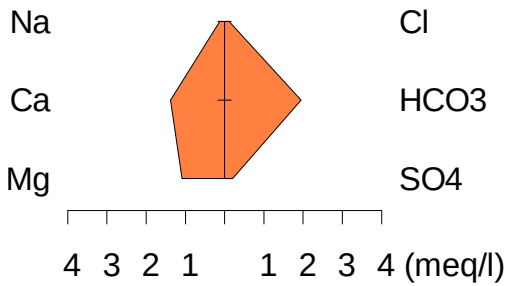


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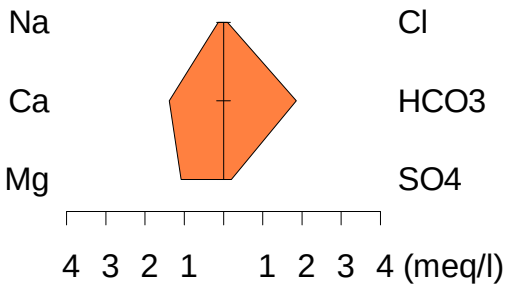

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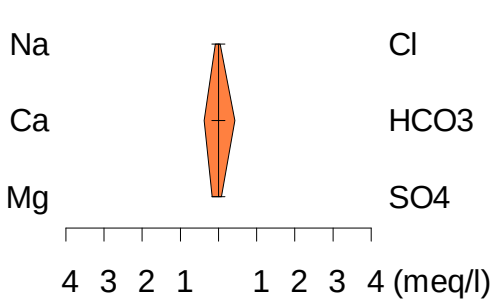


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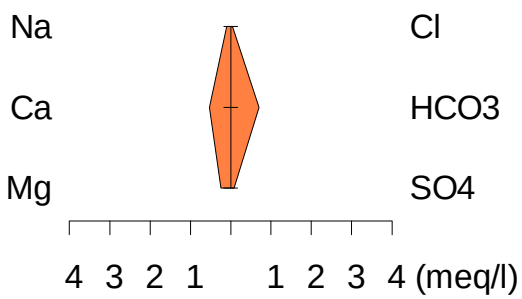


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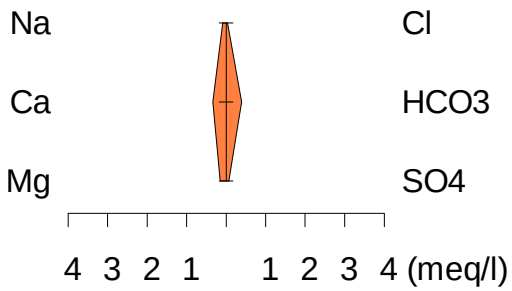
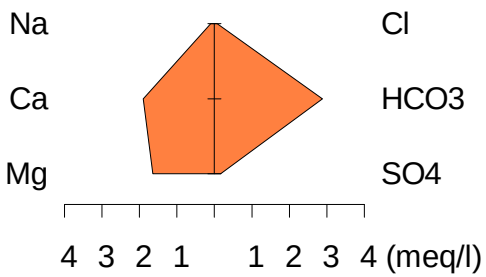
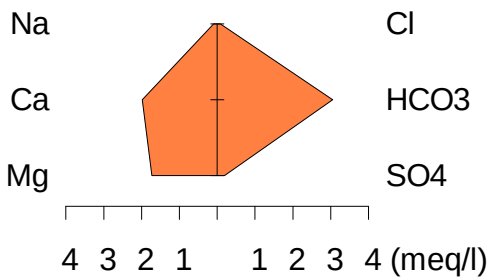


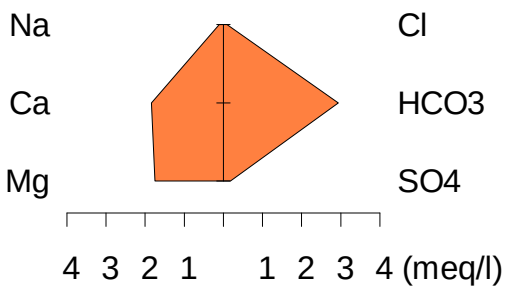

**RAES, 6/14/2012**



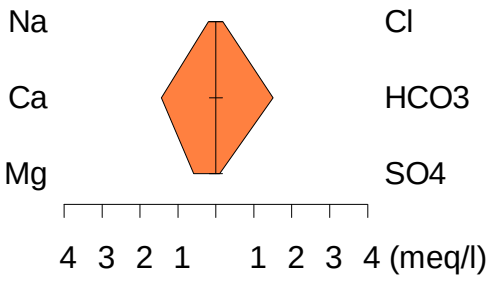

**RAES, 9/27/2012**



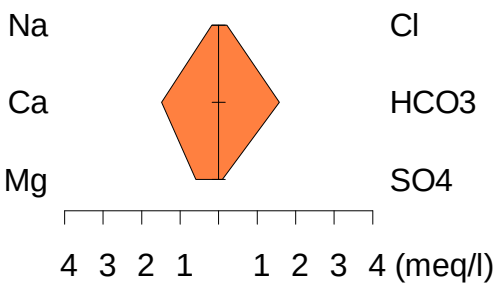

**RAES, 2/4/2013**



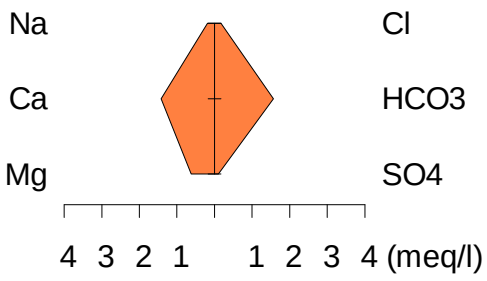
**RATH G, 6/11/2012**



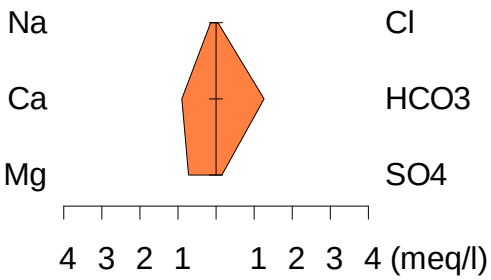

**RATH G, 10/2/2012**



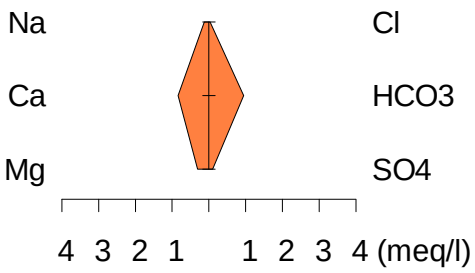

**RATH G, 1/28/2013**



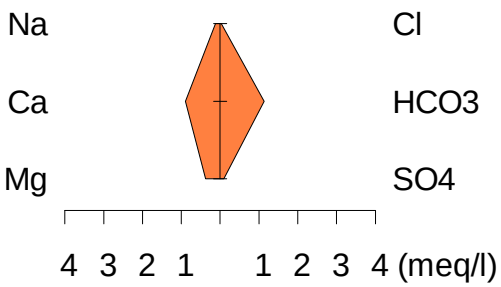

**RPSY, 6/11/2012**



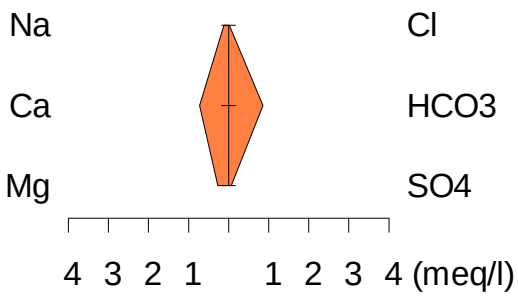
**SL#4, 6/11/2012**



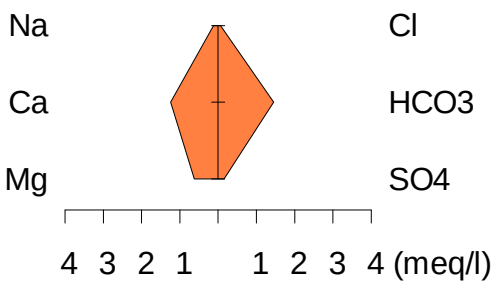

**SL#4, 9/24/2012**



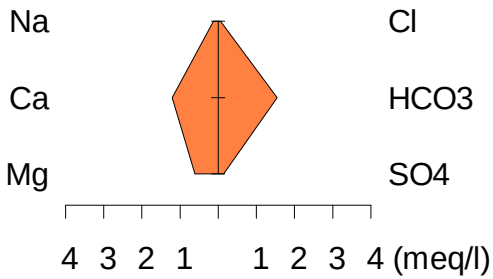

**SL#4, 1/28/2013**



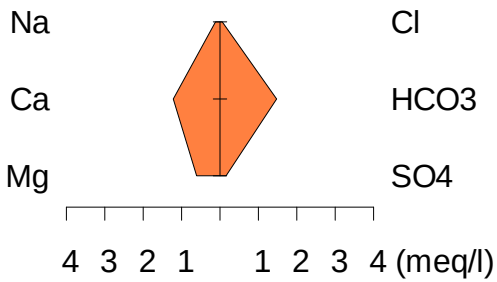

**TLWS, 6/13/2012**



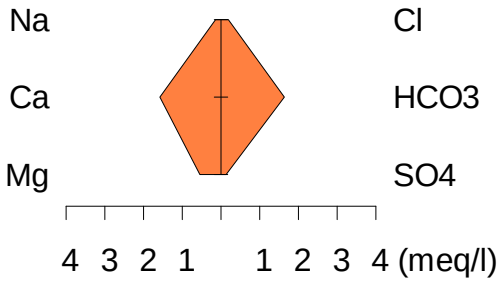

**TLWS, 9/26/2012**



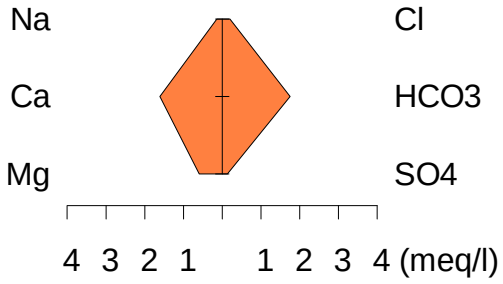

**TLWS, 1/30/2013**

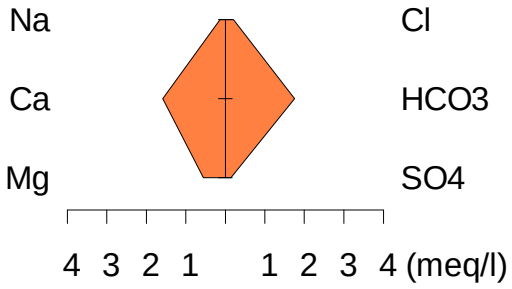


**USFS Nur, 6/12/2012**




**USFS Nur, 9/25/2012**




**USFS Nur, 1/29/2013**