State of Washington
REPORT OF EXAMINATION
FOR WATER RIGHT CHANGE

Changed Purpose of Use
Added or Changed Point of Withdrawal

PRIORITY DATE
January 1943

WATER RIGHT NUMBER
Claim 004021

MAILING ADDRESS

CITY OF MOSES LAKE
PO BOX 1579
MOSES LAKE WA 98837

SITE ADDRESS (IF DIFFERENT)

Total Quantity Authorized for Withdrawal or Diversion

WITHDRAWAL OR DIVERSION RATE	UNITS	ANNUAL QUANTITY (AF/YR)
1100	GPM	1700

Purpose

PURPOSE	WITHDRAWAL OR DIVERSION RATE ADDITIVE	WITHDRAWAL OR DIVERSION RATE NON-ADDITIVE	UNITS	ANNUAL QUANTITY (AF/YR) ADDITIVE	ANNUAL QUANTITY (AF/YR) NON-ADDITIVE	PERIOD OF USE (mm/dd)
Municipal Water Supply Purposes	1100		GPM	1700		01/01 - 12/31

PUBLIC WATER SYSTEM INFORMATION

WATER SYSTEM ID	CONNECTIONS
56300X	undefined

Source Location

COUNTY	WATERBODY	TRIBUTARY TO	WATER RESOURCE INVENTORY AREA
GRANT	GROUNDWATER		41-LOWER CRAB

Claimed Well

Well # 22 - Future re-construction - NE¼NW¼ of Section 32. T. 20 N., R. 28 E.W.M.

Proposed wells to be added to this claim:

*Existing City Well Locations

Well #3 – 1950 feet west and 1000 feet north from the Southeast corner of Section 15, within the SW¼SE¼ of Section 15, T 19 N., R. 28 E.W.M.
Well #4 – 1370 feet west and 1520 feet north from the Southeast corner of Section 28, within the NW¼SE¼ of Section 28, T. 19 N., R. 28 E.W.M.
Well # 5 -- Future re-construction - NE¼ SE¼ of Section 23, T. 19 N., R. 28 E.W.M.
Well #7 – 1150 feet east and 1 foot north from the Southwest corner of Section 14, within the SW¼SW¼ of Section 14, T. 19 N., R. 28 E.W.M.
Well #8 – 105 feet west and 1385 feet south from the Northeast corner of Section 27, within the SE¼NE¼ of Section 27, T. 19 N., R. 28 E.W.M.
Well #9 – 1200 feet east and 1200 feet south from the Northwest corner of Section 15, within the NW¼NW¼ of Section 15, T. 19 N., R. 28 E.W.M.
Well #10 – 785 feet west and 240 feet south from the N¼ corner of Section 27, within the NE¼NW¼ of Section 27, T. 19 N., R. 28 E.W.M.
Well #11 – 130 feet west and 500 feet north from the Southeast corner of Section 14, within the SE¼SE¼ of Section 14, T. 19 N., R. 28 E.W.M.
Well #12 – 200 feet west and 1200 feet north from the Southeast corner of Section 13, within the SE¼SE¼ of Section 13, T. 19 N., R. 28 E.W.M.
Well # 13 -- Future re-construction NW¼NE¼ of Section 36, T. 19 N., R. 28 E.W.M.
Well #14 – 620 feet west and 900 feet south from the Northeast corner of Section 15, within the NE¼NE¼ of Section 15, T. 19 N., R. 28 E.W.M.
Well # 15 -- Future re-construction - SW¼NE¼ of Section 20, T. 19 N., R. 29 E.W.M.
Well # 16 -- Future re-construction - NW¼SE¼ of Section 20, T. 19 N., R. 29 E.W.M.
Well #17 – 130 feet east and 280 feet north from the W¼ corner of Section 21, within the SW¼NW¼ of Section 21, T. 19 N., R. 29 E.W.M.
Well #21– 1240 feet west and 1800 feet north from the Southeast corner of Section 32, within the NE¼SE¼ of Section 32, T. 20 N., R. 28 E.W.M.
Well # 22 -- Future re-construction - NE¼NW¼ of Section 32, T. 20 N., R. 28 E.W.M.
Well #23 – 650 feet east and 2200 feet south from the Northwest corner of Section 33, within the SW¼NW¼ of Section 33, T. 20 N., R. 28 E.W.M.
Well #24 – 660 feet east and 120 feet north from the S¼ corner of Section 4, within the SW¼SE¼ of Section 4, T. 19 N., R. 28 E.W.M.
Well #28 – 660 feet west and 1370 feet north from the S¼ corner of Section 4, within the NE¼SW¼ of Section 4, T. 19 N., R. 28 E.W.M.
Well #29 – 300 feet east and 1700 feet south from the Northwest corner of Section 27, within the SW¼NW¼ of Section 27, T. 20 N., R. 28 E.W.M.
Well #31 – 1110 feet east and 720 feet south from the W¼ corner of Section 29, within the NW¼SW¼ of Section 29, T. 19 N., R. 28 E.W.M.
Well # 32 -- Future re-construction - SW¼SW¼ of Section 29, T. 19 N., R. 28 E.W.M.

Proposed Wells

F-1 (Well #18) 100 feet east and 100 feet south from the Northwest corner of Section 20, within the NW¼NW¼ of Section 20, T. 19 N., R. 29 E.W.M.
F-2 SW¼SW¼ of Section 17, T. 19 N., R. 29 E.W.M.
F-3 SW¼SE¼ of Section 18, T. 19 N., R. 29 E.W.M.
F-4 SE¼SW¼ of Section 17, T. 19 N., R. 29 E.W.M.
F-5 SW¼SE¼ of Section 25, T. 19 N., R. 28 E.W.M.
F-6 SE¼SW¼ of Section 4, T. 19 N., R. 28 E.W.M.
F-7 NE¼NE¼ of Section 20, T. 19 N., R. 29 E.W.M.
F-8 SW¼SE¼ of Section 4, T. 19 N., R. 28 E.W.M.
F-9 SW¼NE¼ of Section 16, T. 19 N., R. 28 E.W.M.
F-10 (Well No. 19) SW¼NW¼ of Section 7, T. 19 N., R. 28 E.W.M. (Moses Point Well)
F-11 NW¼SW¼ of Section 7, T. 19 N., R. 28 E.W.M.
F-12 NW¼NW¼ of Section 18, T. 19 N., R. 28 E.W.M.
F-13 NE¼SW¼ of Section 33, T. 19 N., R. 28 E.W.M.
F-14 SE¼NW¼ of Section 16, T. 19 N., R. 28 E.W.M.
F-15 NE¼NW¼ of Section 15, T. 19 N., R. 28 E.W.M.

Place of Use (See Attached Map)

PARCELS (NOT LISTED FOR SERVICE AREAS)

LEGAL DESCRIPTION OF AUTHORIZED PLACE OF USE

The place of use (POU) of this water right is the Area Served by the City of Moses Lake Service Area described in the most recent Water System Plan/Small Water System Management Program approved by the Washington State Department of Health, so long as the water system is and remains in compliance with the criteria in RCW 90.03.386(2). RCW 90.03.386 may have the effect of revising the place of use of this water right.

Proposed Works

A municipal Water System

Development Schedule

BEGIN PROJECT	COMPLETE PROJECT	PUT WATER TO FULL USE
August 1, 2015	August 1, 2020	January 1, 2025

Measurement of Water Use

How often must water use be measured?	Weekly
How often must water use data be reported to Ecology?	Upon Request
What volume should be reported?	Acre-feet
What rate should be reported?	Annual Peak Rate of Withdrawal (gpm)

Provisions

Wells, Well Logs and Well Construction Standards
All wells constructed in the state must meet the construction requirements of WAC 173-160 titled "Minimum Standards for the Construction and Maintenance of Wells" and RCW 18.104 titled "Water Well Construction". Any well which is unusable, abandoned, or whose use has been permanently discontinued, or which is in such disrepair that its continued use is impractical or is an environmental, safety or public health hazard must be decommissioned.

All wells must be tagged with a Department of Ecology unique well identification number. If you have an existing well and it does not have a tag, please contact the well-drilling coordinator at the regional Department of Ecology office issuing this decision. This tag must remain attached to the well. If you are required to submit water measuring reports, reference this tag number.

Installation and maintenance of an access port as described in WAC 173-160- 291(3) is required.

Measurements, Monitoring, Metering and Reporting
An approved measuring device must be installed and maintained for each of the sources identified by this water right in accordance with the rule "Requirements for Measuring and Reporting Water Use", WAC 173-173, which describes the requirements for data accuracy, device installation and operation, and information reporting. It also allows a water user to petition the Department of Ecology for modifications to some of the requirements.

Department of Health Requirements
Prior to any new construction or alterations of a public water supply system, the State Board of Health rules require public water supply owners to obtain written approval from the Office of Drinking Water of the Washington State Department of Health. Please contact the Office of Drinking Water prior to beginning (or modifying) your project at DOH/Division of Environmental Health, 16201 E. Indiana Avenue, Suite 1500, Spokane Valley, WA 99216, (509) 329-2100.

Water Use Efficiency
The water right holder is required to maintain efficient water delivery systems and use of up-to-date water conservation practices consistent with RCW 90.03.005.

Proof of Appropriation
The water right holder must file the notice of Proof of Appropriation of water (under which the certificate of water right is issued) when the permanent distribution system has been constructed and the quantity of water required by the project has been put to full beneficial use. The certificate will reflect the extent of the project perfected within the limitations of the water right. Elements of a proof inspection may include, as appropriate, the source(s), system instantaneous capacity, beneficial use(s), annual quantity, place of use, and satisfaction of provisions.

Schedule and Inspections
Department of Ecology personnel, upon presentation of proper credentials, will have access at reasonable times, to the project location, and to inspect at reasonable times, records of water use, wells, diversions, measuring devices and associated distribution systems for compliance with water law.

Findings of Facts

Upon reviewing the investigator's report, I find all facts, relevant and material to the subject application, have been thoroughly investigated. Furthermore, I concur with the investigator that a valid water right exists, that there will be no impairment of existing rights subject to the proposed change and that there will be no detriment to the public interest.

Therefore, I ORDER approval of Application for Change to Claim 004021, subject to existing rights and the provisions specified above.

Your Right To Appeal

You have a right to appeal this Order to the Pollution Control Hearings Board (PCHB) within 30 days of the date of receipt of this Order. The appeal process is governed by Chapter 43.21B RCW and Chapter 371-08 WAC. "Date of receipt" is defined in RCW 43.21B.001(2).

To appeal you must do the following within 30 days of the date of receipt of the Order.

File your appeal and a copy of this Order with the PCHB (see addresses below). Filing means actual receipt by the PCHB during regular business hours.

- Serve a copy of your appeal and this Order on Ecology in paper form - by mail or in person. (See addresses below.) E-mail is not accepted.
- You must also comply with other applicable requirements in Chapter 43.21B RCW and Chapter 371-08 WAC.

Street Addresses	Mailing Addresses
Department of Ecology Attn: Appeals Processing Desk 300 Desmond Drive SE Lacey, WA 98503	**Department of Ecology** Attn: Appeals Processing Desk PO Box 47608 Olympia, WA 98504-7608
Pollution Control Hearings Board 1111 Israel Road SW Ste 301 Tumwater, WA 98501	**Pollution Control Hearings Board** PO Box 40903 Olympia, WA 98504-0903

Signed at Spokane, Washington, this 11th day of December, 2012.

Keith L. Stoffel, Section Manager

For additional information visit the Environmental Hearings Office Website: http://www.eho.wa.gov. To find laws and agency rules visit the Washington State Legislature Website: http://www1.leg.wa.gov/CodeReviser.

BACKGROUND

An application for change was submitted by the City of Moses Lake, Washington to the Department of Ecology on January 19, 1999. The City of Moses Lake proposes to change the place of use, purpose of use and add 36 points of withdrawal. The City proposes to use twenty-three (23) existing wells, along with 14 new proposed well sites. The well sites are located at various places within the future service area of the City. It is unlikely all 14 well sites will be used. Many of the sites are grouped together, and only one site in an area may ultimately be constructed.

Twenty (20) Applications for Change were received from the City of Moses Lake under the following water right documents: Water Right Claim Nos. **004020**, **004021**, Ground Water Certificates **2091-A**, **5223-A** with chg 1-3-272, **G3-00637C** with chg 1-3-272, **G3-00638C** with chg 1-3-272, **G3-26379C**, **G3-28169P** together with report of examination dated January 5th, 1994, **4138-A** with chg 1-3-272, and report of examination dated January 5th, 1994, **2099-A** with chg 1-3-272, and report of examination dated January 5th, 1994, **328-A** with chg 1-3-272, and report of examination dated January 5th, 1994, **G3-01326C** with chg 1-3-272, and report of examination dated January 5th, 1994, **4031-A** with chg 1-3-272, and report of examination dated January 5th, 1994, **G3-00842C** with chg 1-3-272, and report of examination dated January 5th, 1994, **52-A** with chg 1-3-272, 1169, 1-3-148, and report of examination dated January 5th, 1994, **80-D** with chg 272 and 1170, and report of examination dated January 5th, 1994, **892-A** together with the Modification of the Record of Decision dated October 27th, 2000, **876-A** with chg 272, and report of examination dated January 5th, 1994, **G3-01550C** together with the Report of Examination dated February 13, 2001 and **G3-01465** w/chg 1-3-499 together with Report of Examination dated February 13, 2001. The applications request integration of wells, additional wells and change in place of use and some requesting a change in purpose of use.

These applications will all have decisions rendered based on their own respective findings. Once approved, all Certificates of Change will be superseded by this authorization and become null and void.

A notice of application was published on September 20 and 27, 1999 in the Columbia Basin Herald in accordance with RCW 90.03.280 and no protests or objections were received.

State Environmental Policy Act (SEPA)

A water right application is subject to a SEPA threshold determination (i.e., an evaluation whether there are likely to be significant adverse environmental impacts) if any one of the following conditions are met.

- It is a surface water right application for more than 1 cubic foot per second, unless that project is for agricultural irrigation, in which case the threshold is increased to 50 cubic feet per second, so long as that irrigation project will not receive public subsidies;
- It is a groundwater right application for more than 2,250 gallons per minute;
- It is an application that, in combination with other water right applications for the same project, collectively exceed the amounts above;

- It is a part of a larger proposal that is subject to SEPA for other reasons (e.g., the need to obtain other permits that are not exempt from SEPA);
- It is part of a series of exempt actions that, together, trigger the need to do a threshold determination, as defined under WAC 197-11-305.

Because this application, in combination with other applications, would entail the withdrawal of more than 2,250 gallons per minute, it is subject to SEPA.

A final Determination of Non-Significance was issued by Keith Stoffel of the Department of Ecology on October 2, 2012, stating that no environmental impact statement is required.

Water Right and Well Information

Water Right Claim 004021 claims a right of 1100 gallons per minute, 1700 acre-feet per year from a well (Well 22) for residential and industrial supply for the area served by the City of Moses Lake.

The proposed well sites are described as follows:

*Existing City Well Locations
Well #3 – 1950 feet west and 1000 feet north from the Southeast corner of Section 15, within the SW¼SE¼ of Section 15, T 19 N., R. 28 E.W.M.
Well #4 – 1370 feet west and 1520 feet north from the Southeast corner of Section 28, within the NW¼SE¼ of Section 28, T. 19 N., R. 28 E.W.M.
Well # 5 -- Future re-construction - NE¼ SE¼ of Section 23, T. 19 N., R. 28 E.W.M.
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F-14 SE¼NW¼ of Section 16, T. 19 N., R. 28 E.W.M.
F-15 NE¼NW¼ of Section 15, T. 19 N., R. 28 E.W.M.

INVESTIGATION

In considering the proposed application for change/transfer, the investigation included, but was not limited to, research and review of (1) appropriate rules and statutes; (2) Ground Water Certificates and other water rights/claims/applications in the vicinity; (3) water well reports for

the applicant's well, and other wells in the vicinity; (4) USGS topographic maps; (5) discussions with Department of Ecology program staff; including review by Ecology hydrogeologists.

Applications for City of Moses Lake Water Rights for Municipal Water Supply Purposes:

TABLE 1

Water Rights w/chgs 1170, 272, 148	Priority Date	Well(s)	Primary GPM	Prim Ac-Ft	Supp Ac-Ft	Remarks
GWC 80-D	9-1940	22	300	480*		See G3-01326 and G3-00637
GWC 52-A	11-19-45	22	500	500		See 328-A
GWC 328-A	7-29-48	22	300	273		See 52-A
GWC 876-A	5-18-50	22	750	564		
GWC 2091-A	11-18-52	1	1000	1600		
GWC 2099-A	12-5-52	22	800	750		
GWC 4138-A	5-7-59	22	1600	160		
GWC 4031-A	10-17-60	22	1535	1029	2304	
GWC 5223-A	3-28-63	22	1500		2400	
G3-01326C	6-2-69	22	2150		3440*	See 80-D and G3-00637C
G3-00637C	3-15-71	22	6000	1200		
G3-00638C	4-13-71	22	2000		3200	
G3-00842C	4-13-71	22	970		1500	
G3-26379C	10-22-79	22	4500	2000		
G3-28169P	2-28-86	22	1000	200		
Sub Totals			**24905**	**8756**		
CGWC 892-A	3-01-50	1	1000	88		Change development
CG3-01550C	6-16-69	22	500	224		Change development
CG3-01465C	3-18-68	22	1000	226		Change development
Sub Totals			2500	538		
Total			**27405**	**9294**		
Claim 004020	1942	1	1300	2100		
Claim 004021	1943	1	1100	1700		
Total			**29805**	**13094**		

*Report of Examination dated 1/5/94 recognized these annual quantities, when reissued, shall not exceed the maximum annual quantity that can be obtained by pumping at their certificated rate in gallons per minute.

Certificates 892-A, G3-01550 and G3-01465 were changed to municipal water supply purposes and acquired by the City for future expansion and development. These rights are in various stages of development.

Other Rights Appurtenant to the Place of Use

There are multiple water right documents issued to individuals throughout the service area of the City of Moses Lake.

A large portion of the City of Moses Lake lies within the boundaries of the Moses Lake Irrigation District. The City confirms irrigation is being served by the Moses Lake Irrigation District under Superseding Surface Water Certificate 4887 to various properties within the City Service Area. Surface Water Certificate 4887 confirms a right to store 50,000 acre-feet of water in Moses Lake for irrigation of 4174 acres within the Moses Lake Irrigation District Boundaries.

In addition to the City water rights described above, 16 additional water right claims were filed by the City of Moses Lake described as follows:

Claim No.	Priority Date	Well S- T- R	GPM	Ac-Ft	Purpose	Remarks
002852	**1944**	15-19-28	**1000**	**1000**	Municipal	Well No. 6
003733	1956	23-19-28	970	1500	Municipal	Well No. 5
003734	1957	14-19-28	2000	3200	Municipal	Well No. 7
004022	1954	33-20-28	1000	1600	Domestic, Industrial	Well No. 23
004023	1961	4-19-28	1700	2700	Domestic, Industrial	Well No. 28
004024	1955	27-20-28	750	1200	Domestic Industrial	Well No. 29
002853	1963	13-19-28	100	100	Irrigation -40ac. Industrial	Well
146402	**1934**	28-19-28	**250**	**400**	Municipal Supply	well
146403	**1940**	23-19-28	**1000**	**1600**	Municipal Supply	well
146404	**1939**	15-19-28	**500**	**800**	Municipal Supply	well
146405	**1936**	15-19-28	**500**	**800**	Municipal Supply	well
146406	**1940**	27-19-28	**500**	**800**	Municipal Supply	well
146407	1947	21-19-28	250	400	Municipal Supply	well
146408	1947	28-19-28	600	968	Municipal Supply	well
146409	1948	29-19-28	500	800	Municipal Supply	Well No. 32
146410	**1936**	33-19-28	**750**	**7200**	Municipal Supply	well
Pre 1945			**4500**	**12600**		

In review of these 16 claims, 7 claims have a priority date prior to 1945. The 9 claims that have a priority date after 1945 would not represent valid water rights and they were not established prior to 1945.

The seven Water Right Claims that predate 1945 claimed the purpose of use as Municipal Supply. The claims identify the uses as Knolls Vista # 12, Park Orchards Tract, Graham Addition, Battery Orchard Tracts and City of Moses Lake. The City of Moses Lake requested authorization to integrate the seven claims into their portfolio of water rights through an application for

change filed in 1979. The Report of Examination in 1979 indicated these rights were established prior to 1945 and found the original source wells were no longer in service and unused. It appears the claimed source wells were taken out of service (abandoned and/or decommissioned) when the City extended their service to the area. The City used their other existing wells for delivery to the existing water systems as the original source wells were probably too shallow to be used for the City system due to the quality of the water.

The 1979 Report of Examination confirmed the claimed wells were used up through the 50's and most recently 1970 as expansion of the City system took over. The claimed wells were identified in the 1979 Report of Examination as shallow wells consisting of mostly unconsolidated and semi consolidated sediments overlying basalt with the exception of one well, Claim 146403. Because these wells were determined to be in a separate body of water as the proposed City wells and the claimed source wells were abandoned and/ or no longer in service, the change request was denied. The conclusion of the 1979 Report of Examination also determined the claimed water uses were also abandoned along with the wells and therefore determined the City claims were no longer valid.

In discussions with the City over the years, the City has continued to express concern over the 1979 report and does not agree the claimed rights have been abandoned or relinquished, only the fact that the claimed rights could not be used from their municipal water system because of the depth of the City wells. Water has continued to be served to these developments from the City water system from other sources and other rights.

RCW 90.03.140(2)(d) states there shall be no relinquishment of any water right if such a right is claimed for municipal water supply purposes under chapter 90.03 RCW. The City has expressed concern that these claimed rights for municipal supply have not been abandoned or relinquished. Although these claimed rights for municipal supply may still be valid, they are claimed from the unconsolidated sedimentary unit and not from the basalt unit of the Quincy Basin.

The intent of the Claims Registration Act, Chapter 90.14 RCW, was to document those uses of surface water in existence prior to the adoption of the State Surface Water Code, Chapter 90.03 RCW, which was adopted in 1917, and those uses of ground water in existence prior to the adoption of the State Ground Water Code, Chapter 90.44 RCW, which was adopted in 1945. Since each code(s) adoption, the only means of acquiring a water right within the state is by filing for, and receiving, a permit from the Department of Ecology or one of its predecessors or is allowed under the domestic exemption to the ground water code (RCW 90.44). The Department of Ecology recognizes that the final determination of the validity and extent associated with a claim registered in accordance with RCW 90.14 ultimately lies with the Superior Court through the general adjudication process provided for by Sections 90.03.110 through 90.03.245 RCW and 90.03.620 through 90.03.645 RCW.

In addition the City of Moses Lake holds Ground Water Certificate G3-27484 in the amount of 50 gallons per minute, 10 acre-feet per year for the sewage treatment plant use and domestic supply, and Quincy Basin Artificially Stored Ground Water Permit 893 for 200 gallons per minute, 31.5 acre-feet per year for irrigation of 9 acres.

History of Water Use of Larson Air Force Base

The Larson Air Force Base was established in 1942. Two wells (#21 and #22) were constructed on the site prior to 1945 and used for multiple purposes, including but not limited to domestic supply, industrial use, irrigation of lawns and facilities and other uses associated with a large military base. The residential population of the base is believed to be rather large as this facility housed residential, staff, families and military.

As the base further developed, Ground Water Certificate No. 2091-A issued to the U.S. Corp of Engineers for the Larson Air Force Base. In November 1952, the U.S.C.O.E. filed an application (2855) with the department for 1000 gallons per minute, from a well (#23) for use of domestic supply on the base. This authorization issued in July of 1953 authorizing 1000 GPM, 1600 acre-feet per year from a well (#23) for domestic supply for the U.S. Air Force Base. The legal description of the permit indicated "Within the boundary of Larson Air Force Base, a federal reservation, Section 33, T. 20 N., R. 28 E.W.M." The report of examination also indicated that there were two existing wells on the facility and those wells (#21 and #22) may have vested claims to water. This right appears to have issued as additive to the underlying vested rights/claims.

At the time of issuance of the permit, drawings of the site facilities included wells #21 and #22 as being used on the base water supply system and identified the location of the proposed new well #23. At the time of issuance of the permit, the existing base facilities were mostly contained within the NW¼ of Section 33, and the NE¼ of Section 32.

After issuance of the permit, the base housing increased as new development occurred mostly in the SE¼ of Section 32 and continuing southeasterly into the E½ of Section 5 and W½ of Section 4. It appears that the expanded areas of Larson Air Force Base water supply system included more lands than just Section 33. A Proof of Appropriation was filed, and in December of 1954, the Certificate (2091-A) issued in full.

In 1955, Well No., 29 was constructed in Section 27 and was linked into the base delivery system. The well was primarily for fire protection for the Boeing facility on the east side of the airport. In 1961, Well No. 28 was constructed in the SW¼ of Section 4 and was linked into the base delivery system.

The City of Moses Lake took over the operation of this water system in 1970. In 1971, the City filed an application for additional water rights. In 1973, the City received Ground Water Permit No G3-00637P authorizing the use of 6000 gallons per minute, 1200 acre-feet per year for

municipal use within the Grant County Airport Area which included the Larson Air Force Base. The forecasted population was estimated at 4600 in 1980 for the Grant County Airport Area. The authorized place of use included all of the Larson Air Force Base lands, including Sections 4 and 5. A Certificate issued for G3-00637 in October of 1978. There was no discussion over the previous right(s), Certificate No. 2091-A, or the two vested rights. This permit issued as additive to the underlying rights. In April of 1971, the City of Moses Lake submitted two claims during the claim registration period, Claim No. 004020 and Claim No. 004021 to memorialize the vested rights described in the previous water right document Certificate 2091-A.

In 1981, the City of Moses Lake filed for and received Certificate of Change No. 1-3-272 for Ground Water Certificate No G3-00637C. This Certificate of Change authorized the use of 16 wells, and change the place of use of (12) twelve Certificates of Water Right to include the Area served by Moses Lake. The rights identified under Certificate of Change 1-3-272 authorized the integration and use of the described rights from the City's 16 wells. Ground Water Certificate No. G3-00637C was included in the Change 1-3-272.

Although separate from the main City system, the Grant County Airport Area municipal water system continued to be operated by the City independently from the rest of the City system until 1997/98 when the City extended lines to this area and created an intertie with the main City system.

Individual well records were not kept or recorded until 1986. In 1988, TCE was found in some of the wells in the Grant County Airport Area municipal water system, as some of the wells were shut down the city relied more heavily on other wells in this isolated system. From the available information, it is difficult to determine the historical beneficial use of each of the individual rights. Based on the metered information, the City used the following annual volumes from the five wells:

1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
1933 AF	1985 AF	1954 AF	1537 AF	1854 AF	2295 AF	1838 AF	1828 AF	No data	1923 AF	1488 AF

The City of Moses Lake is now asking to change the point of withdrawal of this Claim (004021) to reflect the current operational system, and update the water right record to include future well sites within the City's Service Area.

Tentative Determination and Proposed Use

The existing purpose of use on Claim 004021 is described as residential and industrial supply. The beneficial use was serving the air force base, residential base housing, irrigation of lawns and open spaces, industrial and governmental facilities. The beneficial use of this water right claim meets the requirements of municipal water supply purposes under RCW 90.03.015(4)(a) serving residential purposes through 15 or more residential service connections in addition to

other sections of RCW 90.03.015. This right was serving residential uses, governmental proprietary use on base, industrial, irrigation of open spaces, landscaping and fire flow. Although uses at the base declined in the 60's and 70's, water uses continued for one or more categories of municipal water supply purposes. The City of Moses Lake acquired an existing municipal water supply purposes water right and since acquiring this water right, identified this right in their water system planning process as held for existing customers and future growth elsewhere in the water system service area. This right is a municipal water right defined as under RCW 90.03.015 and the City of Moses Lake acquired this existing municipal water right and claimed this vested right as future Municipal Water Supply.

RCW 90.03.560 requires the department to amend the water right document and related records to reflect the purpose of use as municipal water supply purposes when processing a water right change or amendment.

Policy 2030 confirms that a water right authorized for one or more categories of beneficial uses included in the definition of municipal water supply purposes that has been integrated, consolidated or acquired by a municipal water supplier, the water right will be recognized as in conformance with the definitions.

Therefore this right is conformed to municipal water supply purposes in accordance with RCW 90.03.560 under the definitions of 90.03.015 and consistent with Policy 2030, Municipal Water Law Policy Statement.

This right was originally intended for use at the Larson Air Force Base. The right was acquired by the City and used in their north water system until integration of the two municipal systems in 1997-98. These claims have continued to be used for municipal water supply uses and the City has continued to expand over the years in a reasonable diligent manner.

RCW 90.03.140(2)(d) states there shall be no relinquishment of any water right if such a right is claimed for municipal water supply purposes under chapter 90.03 RCW. The City has expressed that these claimed rights for municipal supply have not been abandoned or relinquished.

Hydrologic/Hydrogeologic Evaluation

Applications for change of water right permits and certificates are governed by RCW 90.44.100, which states in part: the holder of a valid right to withdraw public ground waters may, without losing his priority of right, construct wells at a new location in substitution for, or in addition to, those at the original location, or he may change the manner or the place of use of the water. Such amendment shall be issued by the Department only on the conditions that: (1) the additional or substitute well or wells shall tap the same body of public ground water as the original well or wells; (2) use of the original well or wells shall be discontinued upon construction of the substitute well or wells; (3) the construction of an additional well or wells shall not enlarge the right conveyed by the original permit or certificate; and (4) other existing

rights shall not be impaired. The Department may specify an approved manner of construction and shall require a showing of compliance with the terms of the amendment.

This application proposes to change the purpose of use, change the place of use, and add additional points of withdrawal. The City proposes to use twenty-three (23) existing wells, along with 14 new proposed well sites. The well sites are located at various places within the future service area of the City. Hydrogeologic issues relevant to these changes include the bodies of public groundwater to be tapped by any new facilities, and impairment of existing rights.

The table below is a list of existing wells and geologic data submitted by the City of Moses Lake as follows:

Well	¼¼	Sec	Twp	Rng	Depth	Aquifer	GPM
3	SW¼SE¼	15	19	28	909	Wan/GR	0
(33)*	Same	15	19	28		GR	1000
4	NW¼SE¼	28	19	28	1000	Wan/GR	930
5	NE¼SE¼	23	19	28	950	Decommissioned	0
7	SW¼SW¼	14	19	28	950	GR	910
8	SE¼NE¼	27	19	28	1045	Wan/GR	680
9	NW¼NW¼	15	19	28	825	GR	1230
10	NE¼NW¼	27	19	28	692	Wan	1720
11	SE¼SE¼	14	19	28	806	Wan	1130
12	SE¼SE¼	13	19	28	568	Wan	1990
13	NW¼NE¼	36	19	28	514	Decommissioned	0
14	NE¼NE¼	15	19	28	1025	GR	630
15	SW¼NE¼	20	19	29	1030	Wan	0
16	NW¼SE¼	20	19	29	910	Wan	0
17	SW¼NW¼	21	19	29	1240	GR	2000
18	NW¼NW¼	20	19	29	585	Wan	2000
21	NE¼SE¼	32	20	28	712	Wan	690
22	NE¼NW¼	32	20	28	720	Wan	0
23	SW¼NW¼	33	20	28	791	Wan	1480
24	SW¼SE¼	4	19	28	750	Wan	1790
28	NE¼SW¼	4	19	28	750	Wan	1640
29	SW¼NW¼	27	20	28	135	Wan	700
31	NW¼SW¼	29	19	28	696	Wan	0
(31)*	Same	29	19	28	970	GR	1200
32	SW¼SW¼	29	19	28	200	Wan	0

- *Well No. 3 has been capped and replacement well 33 was constructed.
- *Well No. 31 has been capped and a replacement well constructed.

All of the existing wells are described as penetrating the basalt aquifer system.

Bodies of Public Groundwater

Bodies of public groundwater relevant to these facilities are the surficial and basalt aquifers of the Columbia Basin. The Columbia Basin aquifers are part of a large ground water reservoir occurring in sediments above and in the thick series of basalt flows known as the Columbia River Basalt Group. The thickness of this series of flows varies from a few hundred feet at the Spokane River to over 10,000 feet in the Pasco Basin. The relatively flat-lying land surface slopes in a southerly direction.

All wells in the table above produce ground water from the basalt aquifers. All new wells constructed under this change shall be required to produce water from basalt aquifers; no new wells will be permitted under this application constructed to produce water from surficial sediments.

Impairment Considerations

"Impair" or "impairment" means to 1) adversely impact the physical availability of water for a beneficial use that is entitled to protection, and/or 2) to prevent the beneficial use of the water to which one is entitled, and/or 3) to adversely affect the flow of a surface water course at a time when the flows are at or below instream flow levels established by rule (POL-1200); and/or 4) degrade the quality of the source to the point that water is unsuitable for use by existing water right holders (WAC 173-150). Demonstration of impairment would require evidence of a substantial and lasting or frequent impact reflecting such conditions.

Moses Lake has provided copies of hydrographs, or plots of water levels obtained from historic measurements of existing wells over time, to the Department for review. These hydrographs indicate ample evidence of well interference between wells in the Moses Lake vicinity. Yet, review of those hydrographs indicate that this interference does not significantly adversely impact the physical availability of water for beneficial use, let alone prevent beneficial use by other users. Well interference between wells is to be expected as cones of depression of the water table created by pumping merge together. Merging these cones of depression creates a general lowering of the water table which is ultimately balanced by available recharge. Increasing the number of cones of depression without increasing the total volume and rate of pumping decreases the general lowering of the water table at steady state.

As there is no increase in quantity requested or authorized by this change, increasing the number of points of withdrawal to obtain water at the same rate will in effect lessen the impact of pumping on other users. Thus, there is no evidence of a substantial and lasting adverse impact to the physical availability of water in this area.

Conclusions

There is a water right available for change/transfer under Ground Water Claim 004021. This claim is conformed to Municipal water supply purposes, and the place of use remains the Area served by Moses Lake. Ground water has been historically and beneficially used under this right for the purpose of municipal water supply purposes. When considering an application for change to a water right, Ecology must determine that a valid right exists and the proposed change can be made without detriment or injury to existing water rights. Factors considered when determining potential impact include the following:

No Impairment to Existing Rights:

All producing wells involved in this change application are wells producing from basalt aquifers, thus they all produce from the same body of public ground water. No additional instantaneous or annual quantities are to be changed, and installation of additional points of withdrawal does not enlarge the existing rights. No impact to existing beneficial uses or to surface water is anticipated.

No Detriment to the Public Welfare:
There has been no public expression of protest or concern regarding the subject proposal, and no findings through this investigation indicate that there would be detrimental impact to the public welfare through issuance of the proposed change.

No Enhancement of the Original Right:
No withdrawal of water over and above what has been claimed for beneficial use would be authorized through approval of this change.

RECOMMENDATIONS

Based on the above investigation and conclusions, I recommend that the request for change to add 36 wells to the water right be approved in the amounts and within the limitations listed below and subject to the provisions.

Purpose of Use and Authorized Quantities

The amount of water recommended is a maximum limit and the water user may only use that amount of water within the specified limit that is reasonable and beneficial:

1100 gpm
1700 acre-feet per year
Municipal Water Supply Purposes

Points of Withdrawal

*Existing City Well Locations
Well #3 – 1950 feet west and 1000 feet north from the Southeast corner of Section 15, within the SW¼SE¼ of Section 15, T 19 N., R. 28 E.W.M.
Well #4 – 1370 feet west and 1520 feet north from the Southeast corner of Section 28, within the NW¼SE¼ of Section 28, T. 19 N., R. 28 E.W.M.
Well # 5 -- Future re-construction - NE¼ SE¼ of Section 23, T. 19 N., R. 28 E.W.M.
Well #7 – 1150 feet east and 1 foot north from the Southwest corner of Section 14, within the SW¼SW¼ of Section 14, T. 19 N., R. 28 E.W.M.
Well #8 – 105 feet west and 1385 feet south from the Northeast corner of Section 27, within the SE¼NE¼ of Section 27, T. 19 N., R. 28 E.W.M.

Well #9 – 1200 feet east and 1200 feet south from the Northwest corner of Section 15, within the NW¼NW¼ of Section 15, T. 19 N., R. 28 E.W.M.
Well #10 – 785 feet west and 240 feet south from the N¼ corner of Section 27, within the NE¼NW¼ of Section 27, T. 19 N., R. 28 E.W.M.
Well #11 – 130 feet west and 500 feet north from the Southeast corner of Section 14, within the SE¼SE¼ of Section 14, T. 19 N., R. 28 E.W.M.
Well #12 – 200 feet west and 1200 feet north from the Southeast corner of Section 13, within the SE¼SE¼ of Section 13, T. 19 N., R. 28 E.W.M.
Well # 13 -- Future re-construction NW¼NE¼ of Section 36, T. 19 N., R. 28 E.W.M.
Well #14 – 620 feet west and 900 feet south from the Northeast corner of Section 15, within the NE¼NE¼ of Section 15, T. 19 N., R. 28 E.W.M.
Well # 15 -- Future re-construction - SW¼NE¼ of Section 20, T. 19 N., R. 29 E.W.M.
Well # 16 -- Future re-construction - NW¼SE¼ of Section 20, T. 19 N., R. 29 E.W.M.
Well #17 – 130 feet east and 280 feet north from the W¼ corner of Section 21, within the SW¼NW¼ of Section 21, T. 19 N., R. 29 E.W.M.
Well #21– 1240 feet west and 1800 feet north from the Southeast corner of Section 32, within the NE¼SE¼ of Section 32, T. 20 N., R. 28 E.W.M.
Well # 22 -- Future re-construction - NE¼NW¼ of Section 32, T. 20 N., R. 28 E.W.M.
Well #23 – 650 feet east and 2200 feet south from the Northwest corner of Section 33, within the SW¼NW¼ of Section 33, T. 20 N., R. 28 E.W.M.
Well #24 – 660 feet east and 120 feet north from the S¼ corner of Section 4, within the SW¼SE¼ of Section 4, T. 19 N., R. 28 E.W.M.
Well #28 – 660 feet west and 1370 feet north from the S¼ corner of Section 4, within the NE¼SW¼ of Section 4, T. 19 N., R. 28 E.W.M.
Well #29 – 300 feet east and 1700 feet south from the Northwest corner of Section 27, within the SW¼NW¼ of Section 27, T. 20 N., R. 28 E.W.M.
Well #31 – 1110 feet east and 720 feet south from the W¼ corner of Section 29, within the NW¼SW¼ of Section 29, T. 19 N., R. 28 E.W.M.
Well # 32 -- Future re-construction - SW¼SW¼ of Section 29, T. 19 N., R. 28 E.W.M.

Proposed Wells

F-1 (Well #18) 100 feet east and 100 feet south from the Northwest corner of Section 20, within the NW¼NW¼ of Section 20, T. 19 N., R. 29 E.W.M.
F-2 SW¼SW¼ of Section 17, T. 19 N., R. 29 E.W.M.
F-3 SW¼SE¼ of Section 18, T. 19 N., R. 29 E.W.M.
F-4 SE¼SW¼ of Section 17, T. 19 N., R. 29 E.W.M.
F-5 SW¼SE¼ of Section 25, T. 19 N., R. 28 E.W.M.
F-6 SE¼SW¼ of Section 4, T. 19 N., R. 28 E.W.M.
F-7 NE¼NE¼ of Section 20, T. 19 N., R. 29 E.W.M.
F-8 SW¼SE¼ of Section 4, T. 19 N., R. 28 E.W.M.
F-9 SW¼NE¼ of Section 16, T. 19 N., R. 28 E.W.M.
F-10 (Well No. 19) SW¼NW¼ of Section 7, T. 19 N., R. 28 E.W.M. (Moses Point Well)

F-11 NW¼SW¼ of Section 7, T. 19 N., R. 28 E.W.M.
F-12 NW¼NW¼ of Section 18, T. 19 N., R. 28 E.W.M.
F-13 NE¼SW¼ of Section 33, T. 19 N., R. 28 E.W.M.
F-14 SE¼NW¼ of Section 16, T. 19 N., R. 28 E.W.M.
F-15 NE¼NW¼ of Section 15, T. 19 N., R. 28 E.W.M.

Place of use

Area served by the City of Moses Lake

Kevin Brown — 12/11/12

Kevin Brown, Report Writer — *Date*

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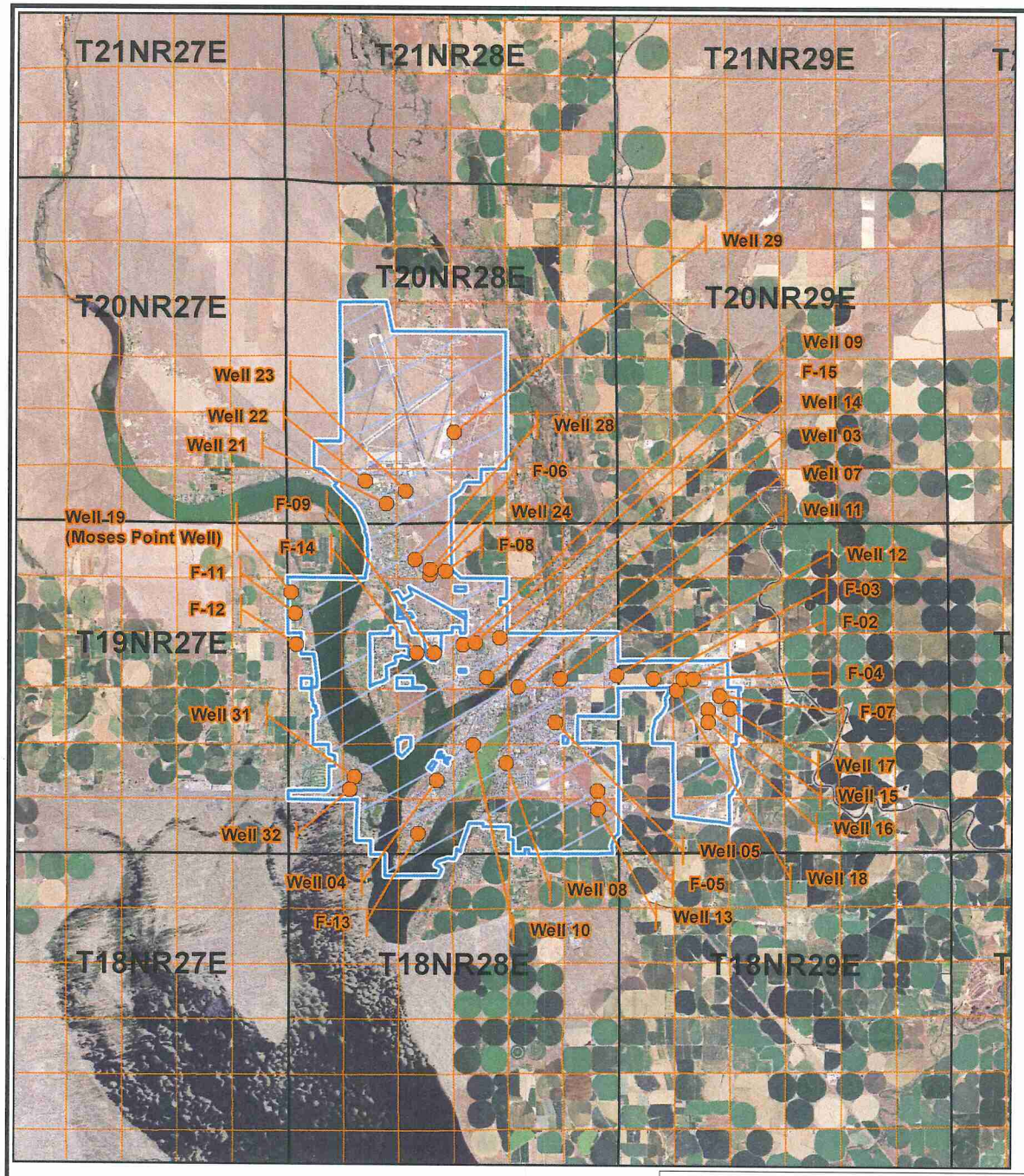
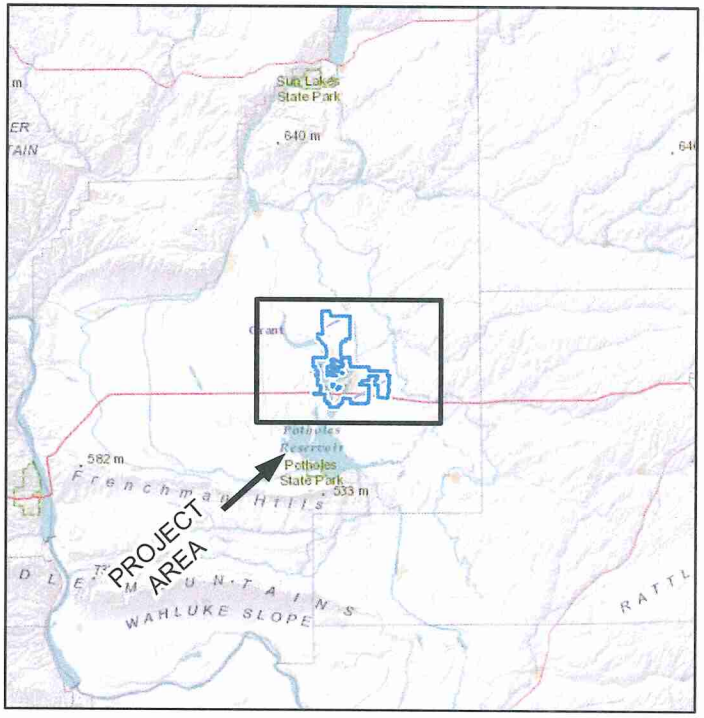
City of Moses Lake
CG3-CL004021
T20N/R28E, T19N/R28E, T18N/R28E, T19N/R29E





Basemap - (ESRI US Topographic Maps)

Legend

- Authorized Place of Use
- Authorized Point of Withdrawal
- Townships
- Sections

0 7,000 14,000 28,000 42,000 56,000 Feet

Basemap - (NAIP 2011 1m color)

DEPARTMENT OF ECOLOGY State of Washington

Map Date: 11/2/2012

Comment:
Place of use and source locations are as defined within the Report of Examination cover sheet for the document identfied in the header above.

ATTACHMENT 1