

## EXHIBIT B-1

### **SUMMARY REPORT: CHEVRON U.S.A. INC. DILIGENCE APPLICATION FOR THE GETTY OIL COMPANY WATER SYSTEM WATER RIGHTS**

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#### **1. INTRODUCTION**

On November 18, 2013, Chevron U.S.A. Inc. (“Chevron”) and Western Resource Advocates (“WRA”) met in Glenwood Springs to discuss Chevron’s diligence application in Water Division No. 5, Case No. 13CW3005 (the “Diligence Case”), for its Getty Oil Company Water System conditional water rights (“Getty Water Rights”). Mark Hermundstad and Kirsten Kurath from Williams, Turner & Holmes, P.C. and Gary Bishop, an independent consultant, attended on behalf of Chevron. Rob Harris and John Gerstle of Gerstle & Company LLC attended on behalf of WRA. Water Referee Holly Strablizky was also present. At the end of this meeting, WRA requested that Chevron provide a written report summarizing the information that had been presented by Chevron during this meeting.

#### **2. GETTY WATER RIGHTS AND ASSOCIATED REAL PROPERTY**

##### **A. Background information**

The Getty Water Rights were originally appropriated and/or acquired by Getty Oil Company (“Getty”) or its predecessor, Pacific Western Oil Corporation. Texaco Inc. acquired Getty in the mid-1980’s. Chevron Corporation and Texaco Inc. merged in 2001 and formed ChevronTexaco Corporation. The name was later changed to Chevron Corporation. Chevron U.S.A. Inc. is an indirect wholly owned subsidiary of Chevron Corporation, and, among other things, owns and manages the business and assets of Chevron Corporation as they relate to shale oil exploration, development and production.

##### **B. Getty Lands in the Piceance Basin**

Getty acquired approximately 24,000 acres of real property containing oil shale resources (“Getty resource lands”), plus additional lands in the Roan Creek drainage basin that were intended to be used to support the development and production of shale oil from the Getty resource lands. The Getty resource lands contain about 15 billion barrels of shale oil in place. All 15 billion barrels are not recoverable because the mining process will necessarily leave some of the resource in the ground. Given that Chevron’s worldwide net proved oil equivalent reserves (as of December 31, 2012, and not counting its oil shale resources) are estimated to be 11.347 billion barrels, this is a very valuable resource that Chevron intends to develop.

Chevron is providing with this report a map (the “Getty Properties Map”) that shows the location of the Getty resource lands and other relevant information. The Getty resource lands are shown in pink on the Getty Properties Map. Chevron’s support lands in the Roan Creek drainage basin are shown on the Getty Properties Map in yellow. These support lands include lands that Getty had acquired plus additional support lands that Chevron has acquired over time. Also

shown in yellow are some of Chevron's other oil shale resource and support lands in the vicinity of the Getty resource lands.

As alluded to in the previous paragraph, Chevron owns other oil shale resource and support lands in Western Colorado not shown on the Getty Properties Map that it intends to use in its shale oil development activities. In this regard, Chevron attached a map as Figure 10 to the diligence application filed in the Diligence Case. That map shows all of Chevron's oil shale and support properties in Western Colorado, including the Getty resource lands, other oil shale lands owned by Chevron, and the support properties acquired by Getty and Chevron to develop Chevron's oil shale resources. The Getty Water Rights were appropriated and acquired to develop the oil shale resources on the Getty resource lands. Accordingly, Chevron acknowledges that it cannot use the Getty Water Rights to develop the oil shale resources on any of its other oil shale properties without first changing the Getty Water Rights to allow them to be used in connection with the development of these other properties.

### C. Getty Water Rights

The Getty Water Rights that are the subject of the Diligence Case consist of water rights adjudicated to the following structures:

1. Getty Pipeline
2. Roan Creek Reservoir and Roan Creek Reservoir Enlarged
3. Getty Sleepy Gulch Reservoir
4. Getty West Fork of Parachute Creek Reservoir
5. 74 Getty Springs

The locations of these structures, except for the Getty Springs, are shown on the Getty Properties Map. The Getty Springs are located throughout the Getty resource lands but are not individually labeled on the Getty Properties Map.

The Getty Water Rights are described in detail in the Application. The manner in which the Getty Water Rights will be used to develop the oil shale resources on the Getty Resource lands, as currently planned by Chevron, is as follows: Water will be diverted from the Colorado River near DeBeque under the Getty Pipeline water right. That water will be pumped to a small settling basin and then delivered either to storage in the Roan Creek Reservoir or directly to the Getty resource lands, depending on the operational needs and requirements at the time. The Getty Sleepy Gulch Reservoir and the Getty West Fork of Parachute Creek Reservoir will serve as terminal reservoirs on the Getty resource lands. In addition to storing water diverted from the Colorado River through the Getty Pipeline, the Roan Creek Reservoir, the Getty Sleepy Gulch Reservoir and the Getty West Fork of Parachute Creek Reservoir will also capture and store water that is available in priority on the tributaries on which they are located.

Chevron has done numerous studies to determine the best location for the dam for the Roan Creek Reservoir and the best location and configuration of the diversion structure on the Colorado River. Those locations are reflected on the Getty Properties Map.

The Getty Springs are located throughout the Getty resource lands and are extremely small. They will serve as sources of water for reclamation, mining and other support activities relating to the development of the Getty resource lands. The Getty Springs are currently absolute for domestic (stockwatering) purposes to the extent of the decreed amount of each of the springs or 15 g.p.m., whichever is less, and conditional for all other decreed purposes.

### **3. PLANNED USE OF THE GETTY WATER RIGHTS FOR SHALE OIL PROJECT**

#### **A. Size of Commercial Shale Oil Project**

Based on a review of the original statements of claim and applications for the Getty Water Rights, the testimony offered in the adjudication proceedings for the Getty Water Rights, and plans developed by Getty to place the Getty Water Rights to beneficial use, Getty intended to use the Getty Water Rights to support one 100,000 barrels per day (“BPD”) commercial shale oil project. With an estimated 15 billion barrels of shale oil located within them, the Getty resource lands contain sufficient oil shale resources to support such a commercial project.

#### **B. Chevron’s Plan to Develop Shale Oil from the Getty Resource Lands**

Chevron has a proven retorting technology known as the Staged Turbulent Bed (“STB”) retorting process. The STB process is an above ground shale oil extraction technology that processes mined and crushed oil shale rock to remove the shale oil by heat transfer. The heat transfer is accomplished by mixing spent oil shale, which has been heated in a separate combuster, with fresh shale, causing the fresh shale to decompose and release the shale oil.

Chevron first developed the STB process using bench and pilot plant size units at its Richmond, California facilities. It then tested the process in a 350 ton per day semi-works facility located in Salt Lake City, Utah. Analysis showed that the STB process recovers 100% of the shale oil from the feedstock. We are providing with this report a copy of an article entitled “The Chevron STB Oil Shale Retort,” published in the March, 1982 volume of the journal Energy Progress. This article describes the STB process in more detail. (We apologize for the poor quality of the copy; it was the only copy available at the time this report was prepared.)

The STB process requires mining of the oil shale resource to obtain the feedstock. Chevron anticipates that it will need to use surface mining to extract the oil shale located near the surface of the Getty resource lands. Underground mining will be used to extract the oil shale in deeper formations. Once the oil shale is extracted it will be crushed and the shale oil will be removed from the crushed rock using the STB process described above.

The STB process is a proven and feasible technology for the development of the Getty resource lands. However, it is not currently economical to proceed with such development. As described in the Application filed in the Diligence Case, Chevron has conducted research into a new in-situ shale oil production concept. If a new technology that is more efficient and

economical than the STB process is developed and proven in the future by Chevron or others, Chevron remains open to the possibility of using such technology to develop the oil shale resources on the Getty resource lands.

C. Chevron's Estimated Water Requirements Using the STB Process

At this time, Chevron estimates that it will need approximately 16,000 acre feet of water per year for the industrial uses associated with a 100,000 BPD commercial shale oil project. It is also possible that Chevron may have to supplement local public water supplies if required in the permitting process for the project. Chevron estimates that it could need to supply up to 8,000 acre feet of water per year for such purposes for a 100,000 BPD project. Therefore, Chevron anticipates that it will need approximately 24,000 acre feet of water per year to support a 100,000 BPD commercial shale oil project.

D. Getty Water Rights Yield

Chevron's most recent modeling of the Getty Water Rights was conducted in 2006 by Stantec Consulting Inc. This modeling was conducted using the State of Colorado's Stream Simulation Model ("StateMod") and showed that the anticipated firm yield for the Getty Pipeline was approximately 20,000 acre feet per year. Accordingly, Chevron anticipates that the Getty Pipeline water right will be used to supply most of the needs of the project that is constructed to develop the Getty resource lands. However, given the anticipated demand of 24,000 acre feet per year for a 100,000 BPD project, it is clear that Chevron needs to maintain the entire portfolio of Getty Water Rights to supply the needs of the project.

The Roan Creek Reservoir is essential to ensure an adequate firm yield for a 100,000 BPD project. The water rights for this reservoir will provide additional yield (above that provided by the Getty Pipeline) from the water in Roan Creek that will be stored in the reservoir when that water is available in priority. In addition, water diverted under the Getty Pipeline water right will be stored in the Roan Creek Reservoir when the Getty Pipeline is in priority. However, there will be times when the Getty Pipeline is not in priority. The primary controlling call on the river downstream of the Getty Pipeline is the Cameo Call from the Grand Valley. The 2006 modeling work by Stantec suggests that the Getty Pipeline water right can be expected to be out of priority for up to ten consecutive months during future dry year periods. Therefore, the Roan Creek Reservoir essentially creates a "savings account" that Chevron can draw upon when the Getty Pipeline water right is out of priority. Such storage is essential to the continuous operation of a large project such as a 100,000 BPD commercial shale oil project.

Chevron will be updating its modeling to account for the current state of the river and to see what if any changes result from incorporating updated model data base information beyond water year 1996. At this point, it does not anticipate large differences in the estimated yields of the Getty Water Rights.

We are submitting with this report the results of the 2006 modeling as they pertain to the Getty Water Rights, as requested by WRA at the November 18 meeting.

#### **4. OTHER CHEVRON LANDS AND WATER RIGHTS**

As shown on the map provided with the Application (Figure 10), Chevron has other resource lands located near the Getty lands and other water rights associated with those lands, some of which are decreed for storage in Roan Creek Reservoir. At this time, Chevron continues to develop these lands and water rights separately from the Getty resource lands and Getty Water Rights. Chevron does not know at this time which lands it will develop first. It is possible that the Getty resource lands could be the first oil shale lands that are developed.

Chevron is working on a conceptual analysis regarding the development of all its properties and water rights. This analysis may suggest that Chevron should change some of its water rights for use in the development of all its lands, but no such decision has been made at this time.

#### **5. CHEVRON'S RD&D LEASE**

During the November 18 meeting, WRA represented that the primary reason it opposed Chevron's Application was it wanted to understand better what it perceived to be mixed messaging in the media concerning Chevron's plans. The confusion relates to Chevron's decision not to pursue work on its BLM Research, Development and Demonstration ("RD&D") lease in Rio Blanco County. However, the answer to the confusion is fairly simple. Chevron decided to terminate the work it was doing on its RD&D lease because it needed to redeploy its employees performing the work to higher priority projects. The research being done on the RD&D lease involved the examination of an unproven in-situ process. The decision not to pursue this research at this time does not affect Chevron's ability to move forward with its proven STB technology when the economics of the industry allow for such development.

#### **6. SUMMARY**

The water rights that are the subject of the Application filed in the Diligence Case, the Getty Water Rights, were originally appropriated or acquired by Getty for the development of a 100,000 BPD project for the commercial production of shale oil on approximately 24,000 acres of Getty resource lands. Chevron now owns these rights and the resource lands, as well as additional support lands in the Roan Creek valley. Chevron's analysis confirms that it will need to develop all of the Getty Water Rights in order to achieve the planned 100,000 BPD project. Chevron has a proven retort technology which is technically feasible and Chevron will proceed with the project when the economics of the industry allow for such development.

The Colorado General Assembly has made a policy decision that the infeasibility of shale oil development under current economic conditions should not cause holders of shale oil conditional water rights to lose these conditional water rights. C.R.S. § 37-92-301(4); *Municipal Subdistrict v. OXY USA, Inc.*, 990 P.2d 701 (Colo. 1999). This policy decision was in recognition of the importance of the future development of shale oil for Colorado and the nation and the recognition that such development will require water. Chevron's Application details the diligence activities undertaken by Chevron during this last diligence period and the Division Engineer has recommended that a finding of diligence be made and the Getty Water Rights continued.

With this summary report, Chevron is providing WRA with 1) two copies of the Getty Properties Map, which shows the locations of the Getty Water Rights and the Getty property that was discussed during the November 18 meeting; 2) the results of the 2006 Stantec modeling for the Getty Water Rights; and 3) a published article on the Chevron STB process, all of which are discussed in more detail in this report.