



1120 Lincoln Street, Suite 801  
Denver, CO 80203

April 30, 2015

Mr. Blair Rollins  
OXY USA WTP LP  
760 Horizon Drive Suite 101  
Grand Junction, Colorado 81506

Re: Review of Form 28 Centralized E&P Waste Management Facility Permit  
Facility ID #436570, Pond 13 East and West  
Pit Facility ID: 414403 and 414404  
Location ID: 335849  
OXY USA WTP LP  
NESE and SESE, Section 4, T6S, R97W, 6<sup>th</sup> PM, Garfield County, Colorado

Dear Mr. Rollins:

The Colorado Oil and Gas Conservation Commission (COGCC) has received and reviewed Oxy's supplemental submittal for the above referenced permit application for COGCC Facility ID #436570. At this time, the COGCC has the following comments:

Form 28 Centralized E&P Waste Management Facility Permit

6) Form 28, Question 6.

Has a site plan showing drainage patterns, diversion or containment structures, roads, fencing, tanks, pits, buildings and any other pertinent construction details been attached? Answer: Yes.

**COGCC Comment:** The Site Plan does not show existing grading of the existing pits or around the site. Please clarify.

**OXY Response** – Including as an Attachment, please find the Updated Site Plan to include the existing grading in the existing pits and around the site.

**COGCC Comment:** Satisfied.

10) Form 28, Question 10.

Is there a planned fire lane of at least 10 feet in width around the active treatment areas and within the perimeter fence? Answer: No.

**COGCC Comment:** A Sundry Form 4 shall be provided detailing a Rule 502 variance request to Rule 908.b.(5).D. The variance request shall detail the specifics of why this Rule cannot be met in addition to documentation of approval from the local fire authority indicating adequate access is provided to the Centralized E&P Facility without installing the required fire lane.

**Oxy Response** – Oxy submitted a Sundry Form 4 detailing a Rule 502 variance request to Rule 908.b.(5).D, reference documents #400792328. Oxy has also included this sundry notice and supporting documentation as an Attachment to this submittal document.

P 303.894.2100 F 303.894.2109 [www.colorado.gov/cogcc](http://www.colorado.gov/cogcc)

Commissioners: Thomas L. Compton - Chairman, Richard Alward, John H. Benton, DeAnn Craig,  
James W. Hawkins, Tommy Holton, Andrew L. Spielman, Mike King, Dr. Larry Wolk

John W. Hickenlooper, Governor | Mike King, Executive Director, DNR | Matthew J. Lepore, Director



**COGCC Comment:** The Director is currently reviewing the Sundry Form 4 and associated documents that pertain to the variance request.

12) Form 28, Question 12.

Have surface water diversion structures been constructed to accommodate a 100-year, 24-hour event?

Answer: Yes.

**COGCC Comment:** No design details were provided in this submittal. Please clarify.

**Oxy Response** - Including as an Attachment, please find the Drainage Report for the site and adjacent property prepared by D.R. Griffin and Associates. The Drainage Report includes surface water diversion structure design details to accommodate a 100-year, 24-hour storm event.

**COGCC Comment:** Satisfied.

14) Form 28, Question 14.

Has facility design and engineering been provided as required by Rule 908.b.7? Answer: Yes.

**COGCC Comment:** This Facility is constructed and operational, please submit Civil Construction Documents, of the entire site, showing "As-Constructed" (plan view and cross-sections, of the pits), signed and stamped by a Colorado Licensed Professional Engineer (P.E.).

As-constructed details of the pit including liner(s), Geo-Net Conduction liner, leak detection and sump, and geo-synthetic clay liner shall be provided for review. Theses shall be signed and stamped by a Colorado P.E.

**Oxy Response** – Oxy has submitted and received COGCC approval for two Form 27 Site Investigation and Remediation Workplans for the Pond 13 East and Pond 13 West Facilities, reference Remediation numbers 8926 and 8927. These two facilities will be closed under the provided Form 27's and will be reconstructed with the plans provided in the submitted Form 28 and updated information as included as Attachments to this document. Including in Attachment 1 is the Updated Site Plan to include the existing grading of the existing pits and around the site. Included as an attachment is construction drawings for the upgrade of Pond 13 to include the liner configuration, plan view and cross sections of the pit, and netting fencing details.

**COGCC Comment:** Oxy shall submit to the COGCC "As-Constructed" plans of the pits, to include cross sections and volume certifications stamped and signed by a Colorado Professional Engineer within 45 days of completion of the construction.

15) Form 28, Question 15.

Has an operating plan been completed as required by Rule 908.b.8? Answer: Yes.

**COGCC Comment:** The Operating Plan references a Figure 3 as being the proposed water sampling locations, yet Figure 3, in the Figures tab is the Sensitive Wildlife Habitat Map, please clarify.

**Oxy Response** – This was an error, the Proposed Water Sampling Locations Map should have been included in the Figures tab as Figure #9. Oxy has included the Proposed Water Sampling Locations Map as an Attachment to this submittal document.

**COGCC Comment:** Satisfied.

16) Form 28, Question 16.

Has ground water monitoring for the site been provided? Answer: Yes.

**COGCC Comment:** Please clarify and provide ground water monitoring results and the location(s) of where the ground water monitoring occurred.

**Oxy Response** – As part of the Form 28 submittal, Oxy provided the Figure #9 Proposed Groundwater Monitoring Well locations for review. These three monitoring locations were based on topography and historic knowledge of available water in the area. After discussion and review of the monitoring well locations, Oxy would like to change these three proposed groundwater monitoring locations to surface water monitoring locations. Down-gradient surface water samples will provide the following:

- ☐ Installation of groundwater wells within the immediate vicinity of the creeks will not characterize potential impacts any different than down-gradient surface water monitoring will achieve;
- ☐ Down-gradient surface water is available in the immediate area of the proposed locations provided by seeps and springs; and
- ☐ Installation of groundwater wells could provide connectivity to groundwater for potential impacts during well installation.

Oxy proposes to monitor the surface water locations quarterly throughout the life of the Facility and all samples will be analyzed for: total petroleum hydrocarbons (diesel and gas range organics), benzene, toluene, ethyl-benzene, xylenes, pH, specific conductance, total alkalinity, total dissolved solids, bromide, chloride, fluoride, nitrate, nitrite, sulfate, calcium, iron, magnesium, manganese, potassium, selenium, and sodium.

**COGCC Comment:** Satisfied.

17) Form 28, Question 17.

Has financial assurance been provided as required by Rule 704? Answer: Yes.

**COGCC Comment:** A Financial Assurance Cost Estimate of \$443,000.00 was provided with the submittal. Prior to approval, financial assurance shall be provided. OXY can provide the estimated \$443,00.00 financial assurance, however, the COGCC is having a third party review the closure of the facility and prepare an independent closure cost estimate. Based on the third party review, the financial assurance may be less than the estimated \$443,000.00 or more than the estimated \$443,000.00.

**Oxy Response** – Oxy will provide financial assurance to the COGCC for the specified amount provided by the COGCC third party reviewer. This financial assurance will be provided during the Form 28 approval finalization process.

**COGCC Comment:** A Financial Assurance Cost Estimate of \$443,000.00 was provided with the submittal. Prior to approval, financial assurance shall be provided. OXY can provide the estimated \$443,00.00 financial assurance, however, the COGCC is having a third party review the closure of the facility and prepare an independent closure cost estimate. Based on the third party review, the financial assurance may be less than the estimated \$443,000.00 or more than the estimated \$443,000.00.

18) Form 28, Question 18.

Has a closure plan been provided? Answer: Yes.

**COGCC Comment:** The COGCC is having a third party review the closure of the facility and prepare an independent closure cost estimate. Based on the third party review, the financial assurance may be less than the estimated \$443,000.00 or more than the estimated \$443,000.00.

**COGCC Comment:** See response to item 17 above.

19) Form 28, Question 19.

Have local government requirements for zoning and construction been complied with? Answer: Yes.

**COGCC Comment:** Could not find documentation, please submit a copy of the recorded Garfield County Limited Impact Review.

**Oxy Response** – Oxy is currently in the process of completing the Garfield County Resolution Conditions. Once the Resolution COAs have been completed, Oxy will provide a copy of the Land Use Change Permit (LUCP) for COGCC record under a separate cover. Copies of the Garfield County LUCP Resolution and Garfield County Extension Request Resolution are included in Attachment 1.

**COGCC Comment:** Provide a copy of the approved Garfield County Limited Impact Review in addition to any other notices, permits, or similar types of notifications for the facility from local governments or other agencies.

20) Form 28, Question 20.

Have permits and notifications required by local governments and other agencies been provided? Answer: Yes.

**COGCC Comment:** Could not find documentation, please submit a copy of the recorded Garfield County Limited Impact Review.

**Oxy Response** – Oxy is currently in the process of completing the Garfield County Resolution Conditions. Once the Resolution COAs have been completed, Oxy will provide a copy of the Land Use Change Permit (LUCP) for COGCC record under a separate cover. Copies of the Garfield County LUCP Resolution and Garfield County Extension Request Resolution are included in Attachment 1.

**COGCC Comment:** See response to Item 19 above.

#### Pond East and West

1. 908.a: Applicability:

**COGCC Comment:** Please provide the historic timeline of use of the Pit Facility including: construction date, expected life of liner(s), maintenance (liner repairs, leak detection functionality, pit and leak detection integrity testing, etc.), netting issues and repairs, spills releases, inspections, etc. A Sundry (Document ID: 2221569) was approved on March 30, 2012 extending the use of the pits. The Sundry provided an inspection plan that OXY would implement in addition to annual hydro testing as part of the pit use extension. Please provide a summary detail of those inspections and the annual hydro testing results. Additionally, a brief discussion of any produced/flowback water reuse and waste minimization water sharing between OXY and other operators should be included as part of the Form 28 submittal. This discussion should include a summary of transfers (volume) of production and flow-back fluids (both as the supplier and receiver) during the calendar year(s) including laboratory analytical results for representative sample(s) of the production and flow-back water. Subsequent produced/flowback water reuse and waste minimization water sharing between OXY and other operators shall be provided in the annual CE&P report under Rule 908.f. It should be noted that the produced/flowback water reuse and waste minimization plans shall not be construed as a

means for collection, treatment, temporary storage, and/or disposal of produced water, drilling fluids, completion fluids, and E&P waste from other Operators other than OXY.

**Oxy Response** – Oxy has submitted and received COGCC approval for two Form 27 Site Investigation and Remediation Workplans for the Pond 13 East and Pond 13 West Facilities, reference Remediation numbers 8926 and 8927. These two facilities will be closed under the provided Form 27's and will be reconstructed with the plans provided in the submitted Form 28 and updated information within Attachment 1 of this letter. Included as an Attachment, please find the Updated Site Plan to include the existing grading of the existing pits and around the site. Included as an attachment is construction drawings for the upgrade of Pond 13 to include the liner configuration, plan view and cross sections of the pit, and netting fencing details. Once construction of the new Facility is complete, Oxy will provide as-constructed figures signed by a Colorado P.E. to detail the as-built construction of the Facility.

**COGCC Comment:** Provide schedule for the closure of the Pond 13 East and Pond 13 West.

3. 908.b.(4) Figures, Maps, Precipitation and Evaporation Rates:

**COGCC Comment:** No Precipitation and Evaporation figure was in the submittal.

It is stated that "At the time of construction, Ponds 13 East and 13 West complied with all conditions of approval associated with wildlife best management practices required by the Director of the COGCC." Does the Facility currently comply with all conditions of approval associated with wildlife best management practices required by the Director of the COGCC?

**Oxy Response** – Oxy currently complies with all wildlife best management practices as required by the Director of the COGCC.

**COGCC Comment:** Satisfied.

4. 908.b. (5).A: Site Plan:

**COGCC Comment:** The Site Plan included with the submittal is showing existing contours at 10' intervals, with no grading contours shown across the site. A typical Site Plan should show grading contours across the site at no greater than a 2' interval, 1' would be preferred

**Oxy Response** – Including in Attachment 1 is the Updated Site Plan to include 1' grading contours throughout the site.

**COGCC Comment:** Satisfied.

5. 908.b.(5).B: Scaled Drawings:

**COGCC Comment:** Since this is an existing Site, please submit Civil Construction Documents, of the entire site, showing "As-Constructed" (plan view and cross-sections, of the pits), signed and stamped by a Colorado Licensed P.E..

As-constructed details of the pit including liner(s), Geo-Net Conduction liner, leak detection and sump, and geo-synthetic clay liner shall be provided for review. Theses shall be signed and stamped by a Colorado P.E. Figure 8- Liner Configuration Diagram (For Double Lined Systems) has been provided, but this is a general schematic.

Proposed details of netting around the pit complex should be provided on the site diagram.

**Oxy Response** – Oxy is in the process of preparing construction details of the reconstruction of the Facility to be stamped and signed by a Colorado licensed P.E.. Proposed netting details will be included

in the construction details. Once these details are available, Oxy will provide them to the COGCC under separate cover.

**COGCC Comment:** See response to item 14 above.

6. 908.b.(5).C: Access Control Measures:

**COGCC Comment:** Please provide a map depicting the location of the locked gate in relation to the pit complex.

**Oxy Response** – Included as an attachment is construction drawings for the upgrade of Pond 13 to include the liner configuration, plan view and cross sections of the pit, and netting fencing details.

**COGCC Comment:** Satisfied.

7. 908.b.(5).D: Fire Access:

**COGCC Comment:**

Rule 908.b.(5).D. Centralized facilities shall have a fire lane of at least ten (10) feet in width around the active treatment areas and within the perimeter fence. In addition, a buffer zone of at least ten (10) feet shall be maintained within the perimeter fire lane.

A copy of a letter provided by Nick Marx, Fire Chief of DeBeque Protection Fire District (DFPD), addressing the potential Pond 13 E/W Centralized E&P Waste Facility and its deviance from COGCC Rule 908.b.(5)D has been provided as part of the Form 28 submittal. OXY has also stated “they have familiarized the DFPD with the location, terrain, and any access issues that may be associated with the facility. While the Facility does not provide the full ten (10) feet of fire lane and ten (10) feet of buffer zone, Nick Marx is confident that all areas of the Facility will be accessible by the DFPD vehicles and or hoses during an emergency.”

A Sundry Form 4 shall be provided detailing a Rule 502 variance request to Rule 908.b.(5).D. The variance request shall detail the specifics of why this Rule cannot be met in addition to documentation of approval from the local fire authority indicating adequate access is provided to the Centralized E&P Facility without installing the required fire lane.

**Oxy Response** – Oxy submitted a Sundry Form 4 detailing a Rule 502 variance request to Rule 908.b.(5).D, reference documents #400792328. Oxy has also included this sundry notice and supporting documentation as an Attachment to this submittal document.

**COGCC Comment:** The Director is currently reviewing the Sundry Form 4 and associated documents that pertain to the variance request.

8. 908.b.(5).E: Surface Water Diversion Structures:

**COGCC Comment:** The submittal indicates that OXY is in the process of gathering survey data to prepare a Drainage Report as required by Garfield county Limited Impact Review process. Please provide this document for inclusion to the Form 28 Permit Application.

**Oxy Response** – Including as Attachments, please find the Updated Site Plan and Drainage Report for the Facility.

**COGCC Comment:** Satisfied.

10. 908.b.(7): Facility Design and Engineering:

**COGCC Comment:** Provide specific pipeline integrity testing procedure, in accordance with COGCC 1100 Series Rules. Include frequency for the contributing well pads. Include a site vicinity map depicting the pipeline locations and routes.

This Facility is constructed and is stated to be upgraded. Please submit planned Civil Construction Documents, including all proposed pit construction details showing plan view and cross-sections, signed and stamped by a Colorado Licensed P.E..

As-constructed details of the pit including liner(s), Geo-Net Conduction liner, leak detection and sump, and geo-synthetic clay liner shall be provided for review. Theses shall be signed and stamped by a Colorado P.E. Figure 8- Liner Configuration Diagram (For Double Lined Systems) has been provided, but this is a general schematic.

**Oxy Response** – Please find included as an Attachment, Oxy’s pipeline integrity testing procedures and pipeline locations and routes maps. Included as an attachment is construction drawings for the upgrade of Pond 13 to include the liner configuration, plan view and cross sections of the pit, and netting fencing details. **COGCC Comment:** Pipeline Integrity Testing procedures, satisfied. See response to item 14 above for “As-Constructed” drawings.

12. 908.b.(7).B: Hydrologic Data:

**COGCC Comment:** The Geo-Hydrology Report (OA Project No. 013-0655) states that “shallow groundwater is not expected to occur in close proximity to the site...”. Question 16 of the Form 28 “Has ground water monitoring for the site been provided? Yes,” Please provide ground water monitoring results and the location(s) of where the ground water monitoring occurred.

**Oxy Response** – As part of the Form 28 submittal, Oxy provided the Figure #9 Proposed Groundwater Monitoring Well locations for review. These three monitoring locations were based on topography and historic knowledge of available water in the area. After discussion and review of the monitoring well locations, Oxy would like to change these three proposed groundwater monitoring locations to surface water monitoring locations. Down-gradient surface water samples will provide the following:

- ☐ Installation of groundwater wells within the immediate vicinity of the creeks will not characterize potential impacts any different than down-gradient surface water monitoring will achieve;
- ☐ Down-gradient surface water is available in the immediate area of the proposed locations provided by seeps and springs; and
- ☐ Installation of groundwater wells could provide connectivity to groundwater for potential impacts during well installation.

Oxy proposes to monitor the surface water locations quarterly throughout the life of the Facility and all samples will be analyzed for: total petroleum hydrocarbons (diesel and gas range organics), benzene, toluene, ethyl-benzene, xylenes, pH, specific conductance, total alkalinity, total dissolved solids, bromide, chloride, fluoride, nitrate, nitrite, sulfate, calcium, iron, magnesium, manganese, potassium, selenium, and sodium.

**COGCC Comment:** Satisfied.

13. 908.b.(7).C: Engineering Data:

**COGCC Comment:**

The original pit permits for Facility IDs 414403 and 414404 were constructed with a single 60 mil liner and geo composite base liner. Please refer to the previous comments regarding as-constructed details and documents.

The southwest and southeast portions of the pits are constructed in fill. The Form 28 application will be conditioned with the following condition of approval (COA):

*No portion of any pit that will be used to hold liquids shall be constructed on fill material, unless the pit and fill slope are designed and certified by a Professional Engineer (P.E.), subject to review and approval by the Director prior to construction of the pit. The construction and lining of the pit shall be supervised by a P.E. or their agent.*

**Oxy Response** – Oxy has submitted and received approval of two Form 27 Site Investigation and Remediation Workplans for the Pond 13 East and Pond 13 West Facilities, reference Remediation numbers 8926 and 8927. These two facilities will be closed under the provided Form 27's and will be reconstructed with the plans provided in the submitted Form 28 and updated information included as attachments to this document. Including as an Attachment, please find the Updated Site Plan to include the existing grading in the existing pits and around the site. Included as an attachment is construction drawings for the upgrade of Pond 13 to include the liner configuration, plan view and cross sections of the pit, and netting fencing details.

**COGCC Comment:** Satisfied.

14. 908.b.(8): Operating Plan:

**COGCC Comment:** Submit a copy of OXYs' Flowline testing procedures for the pipelines associated with this facility. Submit a map of OXYs' existing and proposed pipelines associated with this facility and update in the annual report.

Provide details how OXY remotely monitors the fluid level of the pits.

**Oxy Response** – Please find included as an Attachment, Oxy's pipeline integrity testing procedures and pipeline locations and routes maps. Oxy remotely monitors fluid levels using a pressure transducer. These levels are transmitted through a fluid level monitoring and reporting system called Iconics which generates a report saved to Oxy's Grand Junction server. Fluid level reports are then provided to the field and office personnel twice a day via email. When the fluid level of a pond is nearing capacity, but not to free-board levels, a phone call, email, and text message is sent to field personnel alerting that there is an issue at the Facility. Once the alarm notification is sent to the field, personnel respond to the Facility and assess any problems that may be occurring at the Facility.

**COGCC Comment:** Satisfied.

15. 908.b.(9).B: Site Specific Monitoring Wells:

**COGCC Comment:** The proposed up gradient monitoring well is located in the drainage of Little Creek, the westerly down gradient proposed monitoring well is located in the drainage of Cascade Canyon and the easterly proposed monitoring well in a drainage that flows into Cascade Canyon. Please provide the rational for proposing the monitoring well locations within these drainages and not within the area of the Facility. Please provide the proposed construction detail of the monitoring wells.



**Oxy Response** – As part of the Form 28 submittal, Oxy provided the Figure #9 Proposed Groundwater Monitoring Well locations for review. These three monitoring locations were based on topography and historic knowledge of available water in the area. After discussion and review of the monitoring well locations, Oxy would like to change these three proposed groundwater monitoring locations to surface water monitoring locations. Down-gradient surface water samples will provide the following:

- ☐ Installation of groundwater wells within the immediate vicinity of the creeks will not characterize potential impacts any different than down-gradient surface water monitoring will achieve;
- ☐ Down-gradient surface water is available in the immediate area of the proposed locations provided by seeps and springs; and
- ☐ Installation of groundwater wells could provide connectivity to groundwater for potential impacts during well installation.

Oxy proposes to monitor the surface water locations quarterly throughout the life of the Facility and all samples will be analyzed for: total petroleum hydrocarbons (diesel and gas range organics), benzene, toluene, ethyl-benzene, xylenes, pH, specific conductance, total alkalinity, total dissolved solids, bromide, chloride, fluoride, nitrate, nitrite, sulfate, calcium, iron, magnesium, manganese, potassium, selenium, and sodium.

**COGCC Comment:** Satisfied.

16. 908.b.(10): Surface Water Monitoring:

**COGCC Comment:** Baseline and periodic surface water monitoring shall be conducted. A location in Cascade Canyon shall be identified up gradient of the facility as well as down gradient, in addition locations shall be identified in the easterly drainage both up and down gradient. Water quality analysis shall include BTEX, TPH-DRO, TPH-GRO, TDS, chloride, sulfate, total suspended solids, and pH.

**Oxy Response** – As part of the Form 28 submittal, Oxy provided the Figure #9 Proposed Groundwater Monitoring Well locations for review. These three monitoring locations were based on topography and historic knowledge of available water in the area. After discussion and review of the monitoring well locations, Oxy would like to change these three proposed groundwater monitoring locations to surface water monitoring locations.

Based on topography in the area of the Facility, the three proposed surface water monitoring locations would be classified as down-gradient points. Since the Facility is located on the top of a ridge, surface water sampling up-gradient of the Facility is not possible. Therefore, Oxy proposes to complete surface water monitoring in the three drainages which naturally drain away from the Facility to ensure adequate monitoring of any potential impacts would be captured.

Oxy proposes to monitor the surface water locations quarterly throughout the life of the Facility and all samples will be analyzed for: total petroleum hydrocarbons (diesel and gas range organics), benzene, toluene, ethyl-benzene, xylenes, pH, specific conductance, total alkalinity, total dissolved solids, bromide, chloride, fluoride, nitrate, nitrite, sulfate, calcium, iron, magnesium, manganese, potassium, selenium, and sodium.

**COGCC Comment:** Satisfied.

17. 908.b.(11): Contingency Plan:

**COGCC Comment:** The contingency plan shall be updated when contact information changes..

**Oxy Response** – Oxy will review and update the contact information within their Emergency Response Plan on a semi-annual basis to ensure accurate information is available in the event of an emergency. Oxy will provide any completed updates to contact information for that calendar year within the Centralized E&P Facility annual report submitted to the COGCC.

**COGCC Comment:** Satisfied.

18. 908.c.: Permit Approval:

**COGCC Comment:** Provide financial assurance and approval notices, permits, or similar types of notifications for the facility from local governments or other agencies.

**Oxy Response** – Oxy is currently in the process of permitting the Facility through the Garfield County Building and Planning Department. Once the application is approved, Oxy will provide the approved permit to the COGCC. Any future notices, permits, or similar types of notifications from local governments or other agencies will be provided to the COGCC. Oxy will provide financial assurance to the COGCC for the specified amount provided by the COGCC third party reviewer. This financial assurance will be provided during the Form 28 approval finalization process. Any additional financial assurance required by local governments will be provided to the COGCC.

**COGCC Comment:** See previous comments.

19. 908.d: Financial Assurance:

**COGCC Comment:** See previous comments.

**Oxy Response** – Oxy will provide financial assurance to the COGCC for the specified amount provided by the COGCC third party reviewer. This financial assurance will be provided during the Form 28 approval finalization process. Any additional financial assurance required by local governments will be provided to the COGCC.

**COGCC Comment:** See previous comments.

20. 908.f: Annual Permit Review:

**COGCC Comment:** Include the “Contributing Wells” API numbers have in the Annual Permit Review.

**Oxy Response** – Once the Form 28 is approved, Oxy will provide a Form 26 Source of Produced Water report for inclusion into the permit package. Oxy will additionally review this list annually and provide any updated information on included wells within the Centralized E&P Facility annual report submitted to the COGCC.

**COGCC Comment:** Satisfied.

21. 908.g.: Closure:

**COGCC Comment:** Please see response to 908.d.

**Oxy Response** – Oxy will provide financial assurance to the COGCC for the specified amount provided by the COGCC third party reviewer. This financial assurance will be provided during the Form 28 approval finalization process. Any additional financial assurance required by local governments will be provided to the COGCC.

**COGCC Comment:** See previous comments.

22. 908.h: Local Permitting:

**COGCC Comment:** Please provide a copy of the approved Garfield County Limited Impact Review in addition to any other notices, permits, or similar types of notifications for the facility from local governments or other agencies.

**Oxy Response** – Oxy is currently in the process of permitting the Facility through the Garfield County Building and Planning Department. Once the application is approved, Oxy will provide the approved permit to the COGCC. Any future notices, permits, or similar types of notifications from local governments or other agencies will be provided to the COGCC.

**COGCC Comment:** See previous comments.

Figure Review:

Pond 13/W Stormwater Site Map:

**COGCC Comment:**

What to the letter notations in the yellow squares represent?

What does ECB mean in the Legend?

Are there steel containments around each of the pits as illustrated in the drawing?

**Oxy Response** – The letter notifications in the yellow boxes denote stormwater best management practice features which correlates to Oxy's Stormwater Management Plan. ECB located in the Legend stands for Erosion Control Blanket. No, steel containments are not built around each facility. The black lines on the were placed there to indicate the approximate location of the fence around both Pond 13 East and 13West.

**COGCC Comment:** Satisfied.

Site Plan;

**COGCC Comment:**

There is a proposed storage area of 1.12 +/- acres south of the pits.. What is the purpose of this storage area and how does it relate to the Ponds East and West CE&P Facility.

Please define the entire extent of the Ponds East and West CE&P Facility. It is the COGCCs understanding that only pits and associated equipment (solar panels, pumps, etc.) comprise the CE&P Facility.

**Oxy Response** – This Site Plan was used for permitting through both the COGCC and Garfield County. The Garfield County Building and Planning Department requires the permitting of storage areas and so this was included in the site plan as an ancillary use to the Limited Use Permit application. Included as an Attachment, please find an updated site plan to outline the site boundary for the Pond 13 Centralized E&P Facility.

**COGCC Comment:** Satisfied.

Figure 7 Process Flow Diagram:

**COGCC Comment:**

Please clarify the process flow process from one pit to the other pit.

**Oxy Response** – Pond 13E and Pond 13W are connected by a common suction line. By connecting a diesel pump or floating pump into the facility suction pipeline, produced water can be transferred from Pond 13E into Pond 13W. Produced water is not currently configured to allow produced water to transfer from Pond 13W into Pond 13E.

**COGCC Comment:** Satisfied.

Figure 8 – Liner Configuration Diagram

**COGCC Comment:**

As-constructed details of the pit including liner(s), Geo-Net Conduction liner, leak detection and sump, and geo-synthetic clay liner shall be provided for review.

**Oxy Response** – Included as an attachment is construction drawings for the upgrade of Pond 13 to include the liner configuration, plan view and cross sections of the pit, and netting fencing details.

**COGCC Comment:** Oxy shall submit to the COGCC “As-Constructed” plans of the pits, to include cross sections and volume certifications stamped and signed by a Colorado Professional Engineer within 45 days of completion of the construction.

Figure 9 – Pond 13E/W Proposed Monitoring Location Map

**COGCC Comment:**

See previous comment to 908.b.(9).B: Site Specific Monitoring Wells.

**Oxy Response** – As part of the Form 28 submittal, Oxy provided the Figure #9 Proposed Groundwater Monitoring Well locations for review. These three monitoring locations were based on topography and historic knowledge of available water in the area. After discussion and review of the monitoring well locations, Oxy would like to change these three proposed groundwater monitoring locations to surface water monitoring locations.

Based on topography in the area of the Facility, the three proposed surface water monitoring locations would be classified as down-gradient points. Since the Facility is located on the top of a ridge, surface water sampling up-gradient of the Facility is not possible. Therefore, Oxy proposes to complete surface water monitoring in the three drainages which naturally drain away from the Facility to ensure adequate monitoring of any potential impacts would be captured.

Oxy proposes to monitor the surface water locations quarterly throughout the life of the Facility and all samples will be analyzed for: total petroleum hydrocarbons (diesel and gas range organics), benzene, toluene, ethyl-benzene, xylenes, pH, specific conductance, total alkalinity, total dissolved solids, bromide, chloride, fluoride, nitrate, nitrite, sulfate, calcium, iron, magnesium, manganese, potassium, selenium, and sodium.

**COGCC Comment:** Satisfied.

**Attachment Review:**

Attachment C:

**COGCC Comment:** Submit a copy of OXY’ Flowline testing procedures for the pipelines associated with this facility. Submit a map of OXYs’ existing and proposed pipelines associated with this facility and update in the annual report. Provide details how OXY remotely monitors the fluid level of the pits.

**Oxy Response** – Please find included as an Attachment, Oxy’s pipeline integrity testing procedures and pipeline locations and routes maps. Oxy remotely monitors fluid levels using a pressure transducer set in the pond with high-level fluid alarms. These high-level alarms are transmitted through a fluid level monitoring and reporting system called Iconics which generates a report saved to Oxy’s Grand Junction server. Fluid level reports are then provided to the field and office personnel twice a day via email. When the fluid level of a pond is nearing capacity, but not to free-board levels, emails and

notifications via text message are sent to field personnel alerting that there is an issue at the Facility. Low (1 foot below freeboard), medium (at freeboard), and high (1 foot above freeboard) level alarms are established for each Facility associated with the freeboard level of the pond. Once the alarm notification is sent to the field personnel, it is their responsibility to respond to the Facility and assess any problems that may be occurring at the Facility.

**COGCC Comment:** Satisfied.

Attachment E:

**COGCC Comment:** A Financial Assurance Cost Estimate of \$443,000.00 was provided with the submittal. Prior to approval, financial assurance shall be provided. OXY can provide the estimated \$443,000.00 financial assurance, however, the COGCC is having a third party review the closure of the facility and prepare an independent closure cost estimate. Based on the third party review, the financial assurance may be less than the estimated \$443,000.00 or more than the estimated \$414,000.00.

**Oxy Response** – Oxy will provide financial assurance to the COGCC for the specified amount provided by the COGCC third party reviewer. This financial assurance will be provided during the Form 28 approval finalization process.

**COGCC Comment:** A Financial Assurance Cost Estimate of \$443,000.00 was provided with the submittal. Prior to approval, financial assurance shall be provided. OXY can provide the estimated \$443,000.00 financial assurance, however, the COGCC is having a third party review the closure of the facility and prepare an independent closure cost estimate. Based on the third party review, the financial assurance may be less than the estimated \$443,000.00 or more than the estimated \$443,000.00.

Should you have any questions, please contact me at 303-894-2100 extension 5138.

Sincerely,



Alex Fischer, P.G.

Environmental Supervisor-Western Colorado

Cc: Stephen C. Jenkins, P.E., C.P.E.S.C.  
North Central Area Engineer