

GW-350

**Questionnaire
2012**



New Mexico Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

John H. Bemis
Cabinet Secretary-Designate

Brett F. Woods, Ph.D.
Deputy Cabinet Secretary

Jami Bailey
Division Director
Oil Conservation Division



May 12, 2011

Oil & Gas Facilities Questionnaire for Determination of a WQCC Discharge Permit

Only Water Quality Control Commission- regulated systems will be incorporated into the OCD's WQCC Permits, while OCD regulated systems will be handled under separate permit(s). A current discharge permit is valid until its normal expiration date or November 15, 2012, whichever is later. All facilities with processes subject to the Water Quality Act must have permits in place by November 16, 2012. H2S Contingency Plans; pits, ponds, above and/or below-grade tanks; waste treatment, storage and disposal; and landfarms and landfills may require separate permitting under the OCD Oil, Gas, and Geothermal regulations.

*Proper completion and timely submission of this questionnaire is requested for all facilities with discharge permit expiration dates before November 15, 2012. Please complete and submit a separate questionnaire for each facility **before July 15, 2011.***

• **Name of the owner or operator of the facility**

Shell Oil Products US

• **Point of contact**

Name Ken Springer

Telephone (281) 324-5921

Email Kenneth.Springer@Shell.com

Mailing address P.O. Box 1087 Huffman, TX 77336

• **Facility name** Jal Basin Station

• **Facility location**

Unit Letter, Section, Township, Range D, 32, 25S, 37E

Street address (if any) Not Applicable

• **Facility type**

- | | | |
|---|---|--|
| <input type="checkbox"/> Refinery | <input type="checkbox"/> Gas Plant | <input type="checkbox"/> Compressor |
| <input type="checkbox"/> Crude Oil Pump Station | <input type="checkbox"/> Injection Well | <input type="checkbox"/> Service Company |
| <input type="checkbox"/> Geothermal | <input type="checkbox"/> Abatement | |
| <input checked="" type="checkbox"/> Other (describe) <u>Groundwater Remediation</u> | | |

• **Current and Past Operations (please check all that apply)**

- | | | |
|--|--|-------------------------------------|
| <input type="checkbox"/> Impoundments | <input type="checkbox"/> Treatment Plant | <input type="checkbox"/> Waterflood |
| <input type="checkbox"/> Disposal Well | <input type="checkbox"/> Brine Well | <input type="checkbox"/> Wash Bay |

Oil Conservation Division * 1220 South St. Francis Drive
* Santa Fe, New Mexico 87505

* Phone: (505) 476-3440 * Fax (505) 476-3462* <http://www.emnrd.state.nm.us>

Steam Cleaning Groundwater Remediation

• Facility Status Active Idle Closed

• Does this facility currently have a discharge permit? Yes No

If so, what is the permit number? GW-350

• Are there any routine activities at the facility which intentionally result in materials other than potable water being released either onto the ground or directly into surface or ground water?

(This includes process activities, equipment maintenance, or the cleanup of historic spills.)

Yes No

If so, describe those activities including the materials involved, the frequency of discharge, and the estimated volume per discharge event.

Reference attached description.

• What is the depth below surface to shallowest ground water in the area? _____

• Are there any water supply, groundwater monitoring, or recovery wells at the facility?

Water supply Monitoring Recovery

If these wells are registered with the Office of the State Engineer (OSE), what are the OSE well numbers? Reference attached table

• Are abatement actions ongoing? Yes, however, the remediation system is currently not operating.

• Are there any active or inactive UIC wells present as part of the federal Underground Injection Control program associated with this facility? Yes No

If so, what are the API numbers assigned to those wells?

Two injection wells are associated with the remediation system and are identified as IW-1 and IW-2. There are no API numbers assigned to these wells as they are not classified as Class II Saltwater Injection Wells.

• Are there any sumps at the facility? Yes No

Number of sumps with volume less than 500 gallons _____

Use and contents _____

Is secondary containment incorporated into the design? Yes No

Number of sumps with volume greater than 500 gallons _____

Use and contents _____

Is secondary containment incorporated into the design? Yes No

- Does the facility incorporate any underground lines other than electrical conduits, freshwater, natural gas for heating, or sanitary sewers? Yes No

If so, what do those buried lines contain?

Untreated water that is pumped to the groundwater treatment system and treated water that is pumped to injection wells on the property.

THIS FORM IS DUE TO THE OIL CONSERVATION DIVISION BY JULY 15, 2011.

Questions? Please contact Glenn VonGonten at 505-476-3488 or Carl Chavez at 505-476-3490.

Thank you for your cooperation.

JAMI BAILEY
Director

1. Landowner Information

Plains All American Pipeline, L.P.
Jack Bryant
Jal Basin Station
2 miles South of Jal on Highway 18
Jal, New Mexico 88252
(505) 395-2026 (Facility Office)
(432) 682-5397 (Office)

2. Facility Description

Jal Basin Station improvements are situated in the central portion of the property and encompass approximately 55 acres of the 80 acre property. The northern and southern portions of the property are undeveloped (Figure 2). A perimeter fence approximately 6 feet high with 3 strands of barbed wire surrounds the developed portion of the site.

3. Materials Used or Stored

Materials stored on-site for the Hi-Vac system operation may include zeolite and water conditioning agents. The general composition of the material, container type, estimated volume stored, and location is provided below. Material Safety Data Sheets (MSDS) for all materials used at the facility are available upon request and are maintained at the on-site office building. All other materials stored or used at the facility for the storage and transfer of crude oil and operation and maintenance activities associated with these will be covered under a separate facility discharge plan.

A. Zeolite

A filter containing Zeolite is installed in the process stream following the oil/water separator and before the air stripper. The purpose of the Zeolite is to prevent hydrocarbon emulsion with recovered groundwater from reaching the air stripper. The vessel is placed on the ground next to the remediation system.

B. Water Conditioning Agents

Water conditioning agents are added to the process stream to reduce mineral fouling of the equipment. Initial water analysis indicated that Nalco Chemical #7396 and a 2% solution of hydrochloric acid would be the proper water conditioning agent for this site. The chemical solution is injected into the process stream via a peristaltic pump. The chemical is stored in a DOT approved 55-gallon poly drum. The drum is properly labeled and stored next to the remediation system.

4. Disposition of Treated Groundwater

The groundwater is being treated to the Water Quality Control Commission (WQCC) drinking water standards prior to injection. The WQCC standards are presented in Table I as maximum effluent concentrations.

Upon treatment to WQCC standards, the treated water is piped to the two injection wells on the property and injected into the subsurface. Authorization for injection of the effluent was approved on October 23, 2001 by the New Mexico OCD.

5. Wastes Generated and Procedures

A. Zeolite

The Zeolite requires periodic replacement. The used Zeolite is disposed of either on-site via land farming or at a nearby commercial land treatment facility.

B. Recovered Diesel

Recovered diesel is stored in an on-site tank pending disposal or recovery at an approved facility.

6. Proposed Modifications to Existing Collection/Treatment/Disposal Systems

There are no modifications proposed at this time, nor are any anticipated in the near future.

7. Inspections and Maintenance

Periodic inspections of the Hi-Vac system, valves, gauges, and piping are conducted. The equipment is inspected for integrity, spills, drips, and leaks. If a significant leak is detected, appropriate response actions shall be taken.

Maintenance of the remediation system will be conducted as necessary by a trained field technician. Maintenance will consist of inspecting the extraction wells, vacuum pump, separation equipment, air stripping unit, influent and effluent flow meters, gauges, manway covers, discharge hoses and conduits, and control panels. The equipment will be inspected thoroughly and cleaned or repaired as necessary. Filters will be cleaned or changed regularly to assure proper system operation. Readings will be taken of all pressure gauges, vacuum gauges, and flow meters, and necessary adjustments will be made to the system. Operations and maintenance may be conducted in conjunction with system monitoring and sampling activities.

No surface impoundments, leach fields or other disposal systems requiring inspection and records maintenance are associated with Hi-Vac system operation.

The system has no surface impoundments, leach fields or other active disposal systems for which groundwater monitoring is used to detect leakage.

8. Contingency Plan for Reporting and Clean-up of Spills and/or Releases

The following response actions are general. Specific actions will be determined based on the type and volume of material spilled, location of the spill, and field conditions at the time of the spill.

1. Shut down Hi-Vac system (including injection wells).
2. Confirm the exact location of the leak. Stop or reduce the flow at the release point. Prompt action in stopping or reducing the flow at the release point is necessary to minimize the impact of the spill. Based on the circumstances, this may be done by:
 - Draining the line into tankage.
 - Closing gate valves to isolate flow to the leak area.
3. Notify the appropriate Company representatives in the response zone. Begin the Incident Command System (ICS), if appropriate.

4. Many petroleum vapors are heavier than air and will migrate to lower elevations. Consideration should be given to warning the public in low lying areas and
 - Notify emergency response agencies (fire, police) so that they can assist in warning the public, if necessary.
 - Notify appropriate government agencies. Be sure to contact all potentially impacted local jurisdictions and water intakes.
 - Determine equipment and personnel needed. The resources needed can be determined by assessing the size of the spill, the location of the spill (inside or outside containment basin), type of material spilled, threatened environmentally sensitive areas (wetlands, wildlife refuges), threatened economically sensitive areas (public water intakes, cooling water intakes), and weather conditions.
5. Mobilize and deploy response personnel and equipment. Local personnel are the primary responders to a spill. Additional personnel can be obtained from:
 - Non Company Personnel
 - Contractors and Co-ops
 - Plains All American Pipeline, L.P. Response Team
6. Investigate the cause of the spill and take corrective action to prevent similar spills.

Containment and Recovery

Containment and recovery activities should be conducted under safe conditions. Evaluate and obtain as necessary atmosphere monitoring, excavation techniques, dig permits, and personal protection equipment.

Release Reporting

The OCD shall be notified of any unauthorized release occurring during the system operation in accordance with the requirements of NMOCD Rule 116.

The OCD shall be notified in accordance with NMOCD Rule 116 with respect to any release from any facility of oil or other water contaminant, in such quantity as may, with reasonable probability, be detrimental to water or cause an exceedance of the standards in 19 NMAC 15.A.19.B(1), B(2) or B(3).

Notification of the above releases shall be made by the person operating or controlling either the release or the location of the release in accordance with the following requirements:

A Major Release shall be reported by giving both verbal notice and timely written notice pursuant to Paragraphs C(1) and C(2) of NMOCD Rule 116. A Major Release is:

- an unauthorized release of a volume, excluding natural gases, in excess of 25 barrels
- an unauthorized release of any volume which:
 - ◇ results in a fire
 - ◇ will reach a water course
 - ◇ may with reasonable probability endanger public health
 - ◇ results in substantial damage to property or the environment
 - ◇ an unauthorized release of natural gases in excess of 500 mcf
 - ◇ a release of any volume which may with reasonable probability be detrimental to water or cause an exceeding of the standards in 19 NMAC 15.A.19.B(1), B(2) or B(3).

A Minor Release shall be reported by giving timely written notice pursuant to NMOCD Rule 116. A Minor Release is an unauthorized release of a volume, greater than 5 barrels but not more than 25 barrels; or greater than 50 mcf but less than 500 mcf of natural gases.

Verbal notification shall be reported within 24 hours of discovery to the OCD District Office for the area within which the release takes place. In addition, verbal notification shall be reported to the OCD's Environmental Bureau Chief. This notification shall provide the information required on OCD Form C-141.

Timely written notification is required to be reported within 15 days to the OCD District Office for the area within which the release takes place by completing and filing OCD Form C-141. In addition, timely written notification required shall also be reported to the OCD's Environmental Bureau Chief within 15 days after the release is discovered. The written notification shall verify the prior verbal notification and provide any appropriate additions or corrections to the information contained in the prior verbal notification.

The responsible person must complete OCD approved corrective action for releases which endanger public health or the environment. Releases will be addressed in accordance with a remediation plan submitted to and approved by the OCD.

9. Regional Geology and Hydrogeology

Geology

The property is located in the geographic region known as the Eunice Plain. The Eunice Plain is bound on the north by the Llano Estacado and on the southwest by San Simon Ridge and Antelope Ridge. The westward extension of the Eunice Plain is bounded by an irregular, low, south-facing scarp which is most prominent at Custer Mountain, where it attains a height of about 60 feet. East and west of Custer Mountain the scarp is less pronounced. To the west the scarp is buried under a mantle of dune sand. To the east the scarp becomes more subdued and irregular, owing to dune sand cover and to dissection by numerous gullies and draws. Monument Draw traverses the east side of Eunice Plain from north to south. The Eunice Plain is the most highly developed part of the area.

The Eunice Plain is underlain by a hard caliche surface and is almost entirely covered by reddish-brown dune sand. In some places the underlying surface consists of alluvial sediments, most commonly calcareous silt in buried valleys or Quaternary lake basins. It has a general southeast slope toward Monument Draw. The underlying surface is exposed only locally, but it is reflected to some degree in many places by the overlying sand cover a few inches to several feet thick.

Hydrogeology

Former City of Jal water wells bottomed out in the Santa Rosa sandstone at depths of 500 feet (Well 25.37.19.221) and 450 feet below ground surface (bgs) (Well 25.37.19.240). The groundwater level was noted to be 284 and 65 feet below ground surface in these 2 wells, respectively. These wells were later abandoned as public supply wells. Jal then bought an irrigation well about 5 miles east of Jal and converted it into a public supply. The well bottomed in the Ogallala formation at a depth of 152 feet bgs (Well 25.37.13.312a). The depth to the water was noted to be 73 feet below ground surface. Jal also drilled 2 other wells in township 26 south, range 36 east (Wells 26.36.18.311, 26.36.21.233, and 26.36.21.443). These wells were drilled in the Quaternary Alluvium to depths of 559 feet, 700 feet, and 159 feet bgs, respectively. The third well

drilled was dry. Groundwater in Wells 26.36.18.311 and 26.36.21.233 were noted at depths of 220.8 and 198.0 feet bgs, respectively.

A pond is located 0.42 miles to the east-southeast of the subject property. An unnamed intermittent stream/creek is located 1.67 miles to the northwest of the subject property. An aqueduct is located approximately 1.78 miles to the northwest of the subject property.

According to Mr. Ken Frescas with the State of New Mexico's Engineering Department, there are no permitted water wells within one-quarter mile radius of the outside perimeter of the facility. Jal water wells include the following:

WELL NUMBER	AQUIFER	TOTAL DEPTH OF WELL	DEPTH TO GROUNDWATER	YEAR DRILLED	TOTAL DISSOLVED SOLIDS
26.37.7.331	Tr	467		1937	
25.37.19.221	Tr	500	284.0	1954	825
25.37.19.240	Tr	450	65	1942	759
25.37.15.310	Qal	70	65	1942	
25.37.13.312a	To	152	73	1954	250/295
26.36.18.311	Qal	559	220.8	1960	
26.36.21.233	Qal	700	198.0	1960	
26.36.21.443	--	137 (?)	Dry	1958	

10. Facility Closure Plan

The groundwater monitoring well network is sampled on a quarterly basis and samples submitted to an independent, fixed-based laboratory for quantification of benzene, toluene, ethylbenzene and total xylenes (BTEX constituents). During fourth quarter monitoring and sampling activities, the samples are also submitted for quantification of volatile organic compounds (VOCs), poly-aromatic hydrocarbons (PAHs), cyanide, nitrate, chloride, fluoride, total dissolved solids (TDS) and pH. Routine monitoring and sampling will continue until constituent concentrations are below the New Mexico Water Quality Commission Standards for a minimum of four (4) consecutive quarterly sampling events (reference Table 1). Upon achieving this, SOPUS will submit a *Closure Report* requesting the site be closed and no additional investigative/remedial work be required at the site. Upon receiving closure from the New Mexico Oil Conservation Division, SOPUS will remove all equipment from the site and plug and abandon all groundwater monitoring wells according to New Mexico Office of the State Engineer's requirements (19.27.4.20 NMAC). In addition, the site will be restored to as close to original conditions as feasible.

TABLE I
SAMPLING SCHEDULE – HI-VAC SYSTEM
JAL BASIN STATION
LEA COUNTY, NEW MEXICO

CONTAMINANT	SAMPLING FREQUENCY*	SAMPLE LOCATION	TOTAL NO. OF SAMPLES	EPA METHOD	CLOSURE CONCENTRATION (mg/l)
Arsenic	Initial testing Annually	System Effluent	1 1 per year	6010	0.1
Barium	Initial testing Annually	System Effluent	1 1 per year	6010	1.0
Cadmium	Initial testing Annually	System Effluent	1 1 per year	6010	0.01
Chromium	Initial testing Annually	System Effluent	1 1 per year	6010	0.05
Cyanide	Initial testing Every 3 years	System Effluent	1 1 per 3 yrs	335.2	0.2
Fluoride	Initial testing Every 3 years	System Effluent	1 1 per 3 yrs	300	1.6
Lead	Initial testing Annually	System Effluent	1 1 per year	6010	0.05
Total Mercury	Initial testing Annually	System Effluent	1 1 per year	7470	0.002
Nitrate (NO ₃ as N)	Initial testing Annually	System Effluent	1 1 per year	353.2	10.0
Selenium	Initial testing Annually	System Effluent	1 1 per year	6010	0.05
Silver	Initial testing Annually	System Effluent	1 1 per year	6010	0.05
Benzene	Initial testing Monthly	System Effluent	1 1 per mo.	8020	0.01
Toluene	Initial testing Monthly	System Effluent	1 1 per mo.	8020	0.75
Carbon Tetrachloride	Initial testing Annually	System Effluent	1 1 per year	8260	0.01
1,2-Dichloroethane	Initial testing Annually	System Effluent	1 1 per year	8260	0.01

**TABLE I
(continued)**

**SAMPLING SCHEDULE – Hi-VAC SYSTEM
JAL BASIN STATION
LEA COUNTY, NEW MEXICO**

CONTAMINANT	SAMPLING FREQUENCY*	SAMPLE LOCATION	TOTAL NO. OF SAMPLES	EPA METHOD	MAX EFFLUENT CONCENTRATION (mg/l)
1,1-Dichloroethylene	Initial testing Annually	System Effluent	1 1 per year	8260	0.005
1,1,2,2-Tetrachloroethylene	Initial testing Annually	System Effluent	1 1 per year	8260	0.02
1,1,2-Trichloroethylene	Initial testing Annually	System Effluent	1 1 per year	8260	0.1
Ethylbenzene	Initial testing Monthly	System Effluent	1 1 per mo.	8020	0.75
Total Xylenes	Initial testing Monthly	System Effluent	1 1 per mo.	8020	0.62
Methylene Chloride	Initial testing Annually	System Effluent	1 1 per year	8260	0.1
Chloroform	Initial testing Annually	System Effluent	1 1 per year	8260	0.1
1,1-Dichloroethane	Initial testing Annually	System Effluent	1 1 per year	8260	0.025
Ethylene Dibromide	Initial testing Annually	System Effluent	1 1 per year	8260	0.0001
1,1,1-Trichloroethane	Initial testing Annually	System Effluent	1 1 per year	8260	0.06
1,1,2-Trichloroethane	Initial testing Annually	System Effluent	1 1 per year	8260	0.01
1,1,2,2-Tetrachloroethane	Initial testing Annually	System Effluent	1 1 per year	8260	0.01
Vinyl Chloride	Initial testing Annually	System Effluent	1 1 per year	8260	0.001
PAHs: Total Naphthalene plus monomethylnaphthalenes	Initial testing Annually	System Effluent	1 1 per year	8270	0.03
Benzo-a-pyrene	Initial testing Annually	System Effluent	1 1 per year	8270	0.0007
Chloride	Initial testing Annually	System Effluent	1 1 per year	300	250.0
Copper	Initial testing Annually	System Effluent	1 1 per year	6010	1.0
Iron	Initial testing Annually	System Effluent	1 1 per year	6010	1.0
Manganese	Initial testing Annually	System Effluent	1 1 per year	6010	0.2
Phenols	Initial testing Every 3 years	System Effluent	1 1 per 3 yrs	8270	0.005

**TABLE I
(continued)**

**SAMPLING SCHEDULE – Hi-VAC SYSTEM
JAL BASIN STATION
LEA COUNTY, NEW MEXICO**

CONTAMINANT	SAMPLING FREQUENCY*	SAMPLE LOCATION	TOTAL NO. OF SAMPLES	EPA METHOD	MAX EFFLUENT CONCENTRATION (mg/l)
Sulfate	Initial testing Annually	System Effluent	1 1 per year	300.0	600.0
Total Dissolved Solids (TDS)	Initial testing Annually	System Effluent	1 1 per year	160.1	1000.0
Zinc	Initial testing Annually	System Effluent	1 1 per year	6010	10.0
pH	Initial testing Annually	System Effluent	1 1 per year	150.1	between 6 and 9
Aluminum	Initial testing Annually	System Effluent	1 1 per year	6010	5.0
Boron	Initial testing Annually	System Effluent	1 1 per year	6010	0.75
Cobalt	Initial testing Annually	System Effluent	1 1 per year	6010	0.05
Molybdenum	Initial testing Annually	System Effluent	1 1 per year	6010	1.0
Nickel	Initial testing Annually	System Effluent	1 1 per year	6010	0.2

Well Information
Discharge Permit GW-350
Shell Oil Products US
Jal Basin Substation

Well ID	OSE Permit No.	Well Use
MW-02	CP-00900	Extraction Well
MW-03	CP-00901	Extraction Well
MW-04	CP-00902	Extraction Well
MW-5		Monitoring Well
MW-06	CP-00903	Extraction Well
MW-07		Abandoned Monitoring Well
MW-08	CP-00904	Extraction Well
MW-09	CP-00905	Extraction Well
MW-10		Monitoring Well
MW-11		Monitoring Well
MW-12		Extraction Well
MW-13		Monitoring Well
MW-14	CP-00906	Extraction Well
MW-15		Monitoring Well
MW-16		Monitoring Well
MW-17		Monitoring Well
MW-18		Extraction Well
MW-19		Extraction Well
MW-20		Extraction Well
MW-21		Monitoring Well
MW-22		Extraction Well
MW-23		Monitoring Well
MW-24		Monitoring Well
VMP-01		Vapor Monitoring Point
VMP-02		Vapor Monitoring Point
VMP-03		Vapor Monitoring Point
WW-1		Non-potable water well

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Deputy Cabinet Secretary

Jami Bailey
Division Director
Oil Conservation Division



MARCH 1, 2012

Mr. Ken Springer
Shell oil products us
P.O. Box 1087
Huffman, TX 77336

Dear Mr. Springer:

The Oil Conservation Division's (OCD) records indicate that the following Water Quality Control Commission (WQCC) Discharge Permit has already expired or will soon expire.

GW-350 Jal Basin Station

OCD has revised its permitting policies. These changes may affect the renewal of your discharge permit(s). Please submit an "Oil & Gas Facilities Questionnaire for Determination of a WQCC Discharge Permit" for each of your facilities (see attachment and OCD's "Notifications and Announcements" at <http://www.emnrd.state.nm.us/oed>). Please submit the completed Questionnaires within 30 days of your receipt of this letter. Based on your response, OCD will determine whether you will need to submit a discharge permit renewal. If OCD determines that you no longer are required to operate under a WQCC Discharge Permit, you may be required to obtain a separate permit(s) for other processes at your facility, such as: pits, ponds, impoundments, below-grade tanks; waste treatment, storage and disposal operations; and landfills and landfills. OCD will determine if any of these existing processes may require a separate permit under OCD's Oil, Gas, and Geothermal regulations. If OCD determines that a separate permit(s) is required, then a letter will be sent to you indicating what type of permit is required.

Please keep in mind, if your facility has any discharges that would require a WQCC Discharge Permit now or in the future, then you will be required to renew or obtain a WQCC Discharge Permit.

Mr. Springer

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If you have any questions regarding this matter, please contact Glenn von Gonten at 505-476-3488.

Thank you for your cooperation.

A handwritten signature in black ink, appearing to read "Jami Bailey". The signature is fluid and cursive, with the first name "Jami" written in a larger, more prominent script than the last name "Bailey".

Jami Bailey

Director

JB/gvg

Attachment